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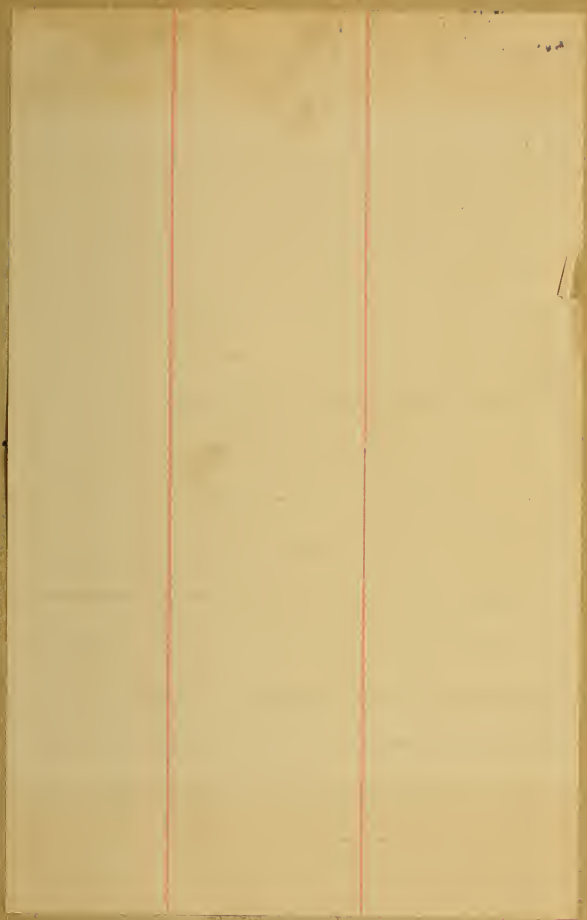
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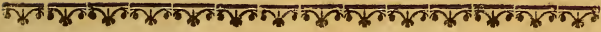
J. J. Brooks.




P R A C T I C E

O F

P H Y S I C.



FIRST LINES

OF THE

PRACTICE OF PHYSIC,

For the USE of STUDENTS in the UNIVERSITY of EDINBURGH.

By WILLIAM CULLEN, M. D.

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FIRST LINES

OF THE

PRACTICE OF PHYSIC.

PART I.

BOOK III.

OF EXANTHEMATA, OR ERUP-
TIVE FEVERS.

DLIX.

THE diseases comprehended under this
title, which make the third Order of
Pyrexiae in our Nosology, are generally such

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A

as

as do not arise but upon occasion of a specific contagion applied, which first produces fever, and then an eruption upon the surface of the body ; and, in respect of both, a disease, which, for the most part, affects persons but once in the course of their lives.

DLX.

Whether the character of the Order may be thus limited, or if the Order may be allowed to comprehend the eruptive fevers produced by a matter generated in the body itself, as also those cases of eruption which do not depend upon contagion, or upon a matter generated before the fever, but upon a matter generated in the course of the fever, I shall not determine here. I leave these questions for a Nosological discussion, to be entered into in another place ; and proceed now to consider the particular diseases which are commonly enumerated under the title of Exanthemata, or Eruptive Fevers.

CHAP.

C H A P. I.

OF ERYSIPELAS, OR ST ANTHONY'S FIRE.

DLXI.

In (CCLXXIV) I mentioned the distinction which I proposed to make between the diseases to be named the Erythema and the Erysipelas; and from thence it will appear, that Erysipelas, as an Erythema following fever, may have its place here.

DLXII.

We suppose the Erysipelas to depend on a matter generated within the body, and which, analogous to the other cases of exanthemata, is, in consequence of fever,
thr

thrown out upon the surface. We own it may be difficult to apply this to every particular case of Erysipelas ; but we take the case in which it is generally supposed to apply, that of the Erysipelas of the face ; which we shall now therefore consider.

DLXIII.

The Erysipelas of the face comes on with a cold shivering, and other symptoms of pyrexia. The hot stage of this is frequently attended with a confusion of head, and some degree of delirium ; and almost always with drowsiness, or perhaps coma. The pulse is always frequent, and commonly full and hard.

DLXIV.

When these symptoms have continued for one, two, or at most three days, there appears, on some part of the face, a redness,
such

such as that described under the title of Erythema, (see Synopf. Nosolog.) This redness, at first, is of no great extent, but gradually spreads from the part it first occupied to the other parts of the face, till it has affected the whole ; and frequently from the face, it spreads over the hairy scalp, or descends on some part of the neck. As the redness spreads, it commonly leaves, or at least decreases in the parts it had before occupied. All the parts where the redness appears are, at the same time, affected with some swelling, which continues sometimes after the redness has abated. The whole face becomes considerably turgid ; and the eye-lids are often so much swelled, as entirely to shut up the eyes.

DLXV,

When the redness and swelling have proceeded for some time, there commonly arise, sooner or later, blisters of a larger or smaller

ler size, on several parts of the face. These contain a thin colourless liquor, which sooner or later runs out. The surface of the skin, in the blistered places, sometimes becomes livid and blackish; but this livor seldom goes deeper than the surface, or discovers any degree of gangrene affecting the skin. On the parts of the face not affected with blisters, the cuticle suffers, towards the end of the disease, a considerable desquamation.

Sometimes the tumour of the eye-lids ends in a suppuration.

DLXVI.

The inflammation coming upon the face does not produce any remission of the fever which had before prevailed; and sometimes the fever increases with the spreading and increasing inflammation.

DLXVII.

DLXVII.

The inflammation usually continues for eight or ten days ; and, for the same time, the fever and symptoms attending it also continue.

DLXVIII.

In the progress of the disease, the delirium and coma attending it sometimes go on increasing, and the patient dies apoplectic on the seventh, ninth, or eleventh day of the disease. In such cases, it has been commonly supposed that the disease is translated from the external to the internal parts. But I have not seen any instance in which it did not appear to me, that the affection of the brain was merely a communication from the external affection, as this continued increasing at the same time with the internal.

DLXIX.

DLXIX.

When the fatal event does not take place, the inflammation, after having affected the whole of the face, and perhaps, the other external parts of the head, ceases. With the inflammation, the fever also ceases; and, without any other crisis, the patient returns to his ordinary state of health.

DLXX.

This disease is not commonly contagious; but, as it may arise from an acrid matter externally applied, so, it is possible, that the disease may sometimes be communicated from one person to another.

Persons who have once laboured under this disease are liable to returns of it.

DLXXI.

DLXXI.

The event of this disease may be foreseen from the state of the symptoms which denote more or less affection of the brain. If neither delirium nor coma come on, the disease is seldom attended with any danger; but, when these symptoms appear early in the disease, and are in a considerable degree, the utmost danger is to be apprehended.

DLXXII.

As this disease often arises in the part, at the same time with the coming on of the pyrexia; as we have known it, with all its symptoms, arise from an acrimony applied to the part; as it differs from pure Erythema, by being attended with a full, and frequently a hard pulse; as the blood drawn in this disease shews the same crust upon its surface, that appears in the phlegmasiæ; and, *lastly*, as the swelling of the eye-lids,

in this disease, frequently ends in a suppuration; so, from all these considerations, it seems doubtful if this disease be properly, in Nosology, separated from the Phlegmasiae. At any rate, I take the disease we have described to be what physicians have named the Erysipelas Phlegmonodes, and that it partakes a great deal of the nature of the Phlegmasiae.

DLXXIII.

Upon this conclusion, the Erysipelas of the face is to be cured very much in the same manner as phlegmonic inflammations, by blood-letting, cooling purgatives, and by employing every part of the antiphlogistic regimen; and our experience has confirmed the fitness of this method of cure.

DLXXIV.

The evacuations of blood-letting and purging, are to be employed more or less,
according

according to the urgency of symptoms, particularly those of the pyrexia, and those which mark an affection of the brain. As the pyrexia continues, and often increases with the inflammation of the face ; so the evacuations mentioned may be employed at any time in the course of the disease.

DLXXV.

In this, as in other diseases of the head, it is proper to put the patient, as often as he can easily bear it, into somewhat of an erect posture.

DLXXVI.

As, in this disease, there is always an external affection, and as, in many instances, there is no other ; so various external applications to the part affected have been proposed ; but almost all of them are of doubtful effect. The narcotic, refrigerant,
and

and astringent applications, are suspected of disposing to gangrene. Spiritous applications seem to increase the inflammation; and all oily or watery applications seem to occasion its spreading. The application that seems most safe, and which is now most commonly employed, is that of a dry mealy powder, frequently sprinkled upon the inflamed parts.

DLXXVII.

An Erysipelas phlegmonodes frequently appears on other parts of the body, beside the face; and such other Erysipelatous inflammations frequently end in suppuration. These cases are seldom dangerous. At coming on, they are sometimes attended with drowsiness, and even with some delirium; but this rarely happens; and these symptoms do not continue after the inflammation is formed. I have never seen an instance of the translation of an inflammation from the
limbs

limbs to an internal part; and, though these inflammations of the limbs be attended with pyrexia, they seldom require the same evacuations as the Erysipelas of the face. At first they are to be treated by dry mealy applications only; and all humid applications, as fomentations or poultices, are to be avoided, till, by the continuance of the disease, by the increase of swelling, or by a throbbing felt in the part, it appear that the disease is proceeding to suppuration.

DLXXVIII.

We have hitherto considered Erysipelas as in a great measure of a phlegmonic nature; and, agreeably to that opinion, we have proposed our method of cure. But it is probable, that an Erysipelas is sometimes attended with, or is a symptom of, a putrid fever. In such case, the evacuations proposed above may be improper, and the use of the Peruvian bark may be necessary; but

but I cannot be explicit upon this subject, as such putrid cases have not fallen under my observation.

C H A P. II.

O F T H E P L A G U E.

S E C T. I.

Of the Phenomena of the Plague.

DLXXIX.

The Plague is a disease which always arises from contagion ; which affects many persons about the same time ; proves fatal
to,

to great numbers ; generally produces fever ; and, in most persons, is attended with buboes or carbuncles.

DLXXX.

These are the circumstances which, taken together, give the character of the disease ; but it is accompanied with many symptoms almost peculiar to itself, that, in different persons, are greatly diversified in number and degree, and should be particularly studied. We should wish to lay a foundation for this ; but think it unfit for a person who has never seen the disease to attempt its particular history. For this, therefore, we must refer to the authors who have written on the subject ; but allowing those only to be consulted, who have themselves seen and treated the disease in all its different forms.

DLXXXI.

DLXXXI.

From the accounts of such authors, it appears to me, that the circumstances which particularly distinguish this disease, and especially the more violent and dangerous states of it, are, *1st*, The great loss of strength in the animal functions, which often appears early in the disease.

2dly, The stupor, giddiness, and consequent staggering, which resembles drunkenness, or the head-ach, and various delirium; all which symptoms denote a great disorder in the functions of the brain.

3dly, The anxiety, palpitation, syncope, and especially the weakness and irregularity of the pulse, which denote a considerable disturbance in the action of the heart.

4thly, The nausea and vomiting, particularly the vomiting of bile, which shews an accumulation of vitiated bile in the gall-bladder, and biliary ducts, and from thence derived into the intestines and stomach;
all

all which symptoms we suppose to denote a considerable spasm, and loss of tone in the extreme vessels on the surface of the body.

5thly, The buboes or carbuncles, which denote an acrimony prevailing in the fluids ; and,

Lastly, The petechiae, hemorrhagies, and colliquative diarrhoea, which denote a putrescent tendency prevailing to a great degree in the mass of blood.

DLXXXII.

From the consideration of all these symptoms, it appears, that the plague is especially distinguished by a specific contagion, often suddenly producing the most considerable symptoms of debility in the nervous system, or moving powers, as well as of a general putrescency in the fluids ; and it is from the consideration of these circumstances as the proximate cause, that I think

both the prevention and cure of the plague must be directed.

DLXXXIII.

If this disease should revisit the northern parts of Europe, it is probable that, at the time, there will not be a physician alive, who, at the first appearance of the disease, can be guided by his former experience, but must be instructed by his study of the writers on this subject, and by analogy. It is, therefore, I hope, allowable for me, upon the same grounds, to offer here my opinion with respect to both the prevention and cure of this disease.

S E C T.

S E C T. I.

OF THE PREVENTION OF THE PLAGUE.

DLXXXIV.

With respect to the prevention : As we are firmly persuaded that the disease never arises in the northern parts of Europe, but in consequence of its being imported from some other country, so the first measure necessary, is the magistrate's taking care to prevent the importation ; and this may generally be done by a due attention to bills of health, and to the proper performance of quarantains.

DLXXV.

DLXXXV.

With respect to the latter, we are persuaded, that the quarantain of persons may safely be much less than forty days ; and, if this were allowed, the execution of the quarantain would be more exact and certain, as the temptation to break it would be, in a great measure, removed.

DLXXXVI.

With respect to the quarantain of goods ; it cannot be perfect, unless the suspected goods be unpacked, and duly ventilated, as well as the other means employed for correcting the infection they may carry ; and, if all this were properly done, it is probable that the time commonly prescribed for the quarantain of goods might also be shortened.

DLXXXVII.

DLXXXVII.

A second measure, in the way of prevention, becomes requisite, when an infection has reached and prevailed in any place, to prevent that infection from spreading into other places. This can be done only by preventing the inhabitants, or the goods of any infected place, from going out of it, till they have undergone a proper quarantine.

DLXXXVIII.

The third measure for prevention, to be employed with great care, is to hinder the infection from spreading among the inhabitants of the place in which it has arisen. The measures necessary for this are to be directed by the doctrine laid down in (LXXXVI.); and from that doctrine we infer, that all persons who can avoid any near communication with infected persons, or goods, may be saved from the infection.

DLXXXIX.

DLXXXIX.

For avoiding such communication, a great deal may be done by the magistrate,

1. By allowing as many of the inhabitants as are free from the infection, and not necessary to the service of the place, to go out of it.
2. By discharging all assemblies, or unnecessary intercourse of the people.
3. By rendering some necessary communications to be performed without contact.
4. By making such arrangements and provisions as may render it easy for the families remaining, to shut themselves up in their own houses.
5. By allowing persons to quit houses in which an infection appears, upon condition that they go into lazarettos.
6. By ventilating and purifying, or destroying, at the public expence, all infected goods.

Lastly, By avoiding hospitals, and providing separate apartments for infected persons.

The

The execution of these measures will require great authority, and much vigilance and attention on the part of the magistrate; but it is not our province to enter into any detail on this subject of the public police.

DXC.

The *fourth* and *last* part of the business of prevention, respects the conduct of persons necessarily remaining in infected places, especially of those obliged to have some communication with persons infected.

DXCI.

Of those obliged to remain in infected places, but not obliged to have any near communication with the sick, they may be preserved by avoiding all near communication with other persons, or their goods; and, it is probable, that a small distance will answer the purpose, if, at the same time, there

there be no stream of air to carry the effluvia of persons, or goods, to some distance.

DXCII.

For those who are necessarily obliged to have a near communication with the sick, it is proper to let them know, that some of the most powerful contagions do not operate but when the bodies of men exposed to the contagion are in certain circumstances, which render them more liable to be affected by it ; or, when certain causes concur to excite the power of it ; and, therefore, by avoiding these circumstances and causes, they may often escape infection.

DXCIII.

The bodies of men are especially liable to be affected by contagions, when they are any how considerably weakened, as they may be by want of food, and even by a scanty diet,
or

or one of little nourishment ; by intemperance in drinking, which, when the stupor of intoxication is over, leaves the body in a weakened state ; by excess in venery ; by great fatigue ; or, by any considerable evacuation.

DXCIV.

The causes which, concurring with contagion, render it more certainly active, are cold, fear, and full living.

The several means, therefore, of avoiding or guarding against the action of cold, are to be carefully studied.

DCXV.

Against fear the mind is to be fortified as well as possible ; by inspiring a favourable idea of the power of preservative means ; by destroying the opinion of the incurable nature of the disease ; by occupying mens minds with business or labour ;

and, by avoiding all objects of fear, as funerals, passing bells, and any notice of the death of particular friends.

DXCVI.

A full diet of animal food increases the irritability of the body, and favours the operation of contagion ; and indigestion, whether from the quantity or quality of food, has the same effect.

DXCVII.

Besides giving attention to obviate the several circumstances (DXCII. DXCIII.) which favour the operation of contagion, it is probable, that some means may be employed for strengthening the bodies of men, and thereby enabling them to resist contagion.

For this purpose, it is probable, that the moderate use of wine, or of spirituous liquors, may have a good effect.

It is probable also, that exercise, when it can be employed, if so moderate as to be neither heating nor fatiguing to the body, may be employed with advantage.

Persons who have tried cold bathing, and commonly feel invigorating effects from it, if they are any ways secure against having already received infection, may possibly be enabled to resist it by the use of the cold bath.

It is probable, that some medicines, also, may be useful in enabling men to resist infection ; but, amongst these, we can hardly admit the numerous alexipharmics formerly proposed, or, at least, very few of them, and those only of tonic power. Amongst these last we reckon the Peruvian bark ; and it is, perhaps, the most effectual. If any thing is to be expected from antiseptics, I think camphire, whether internally or externally employed, is one of the most promising.

Every person is to be indulged in the use of any means of preservation, which he has
conceived

conceived a good opinion of, whether it be a charm or a medicine, if the latter be not directly hurtful.

Whether issues be useful in preserving from, or in moderating the effects of contagion, I cannot determine from the observations I have yet read.

DXCVIII.

As neither the atmosphere, in general, nor any considerable portion of it, are tainted or impregnated with the matter of contagions, so the lighting of fires over a great part of the infected city, or other general fumigations in the open air, are of no use for preventing the disease, and may perhaps be hurtful.

DXCIX.

It would probably contribute much to check the progress of infection, if the poor
were

were enjoined to make a frequent change of cloathing, and were suitably provided for that purpose ; and if they were, at the same time, induced to make a frequent ventilation of their houses and furniture.

S E C T. III.

OF THE CURE OF THE PLAGUE.

DC.

In the cure of the plague, the indications are the same as those of fever in general ; (CXXV.) but here they are not all equally necessary and important.

DCI.

The measures for moderating the violence of re-action, which operate by diminishing
the

the action of the heart and arteries, (CXXVI. 1.) have seldom any place here, excepting so far as the antiphlogistic regimen is generally proper. Some physicians, indeed, have recommended bleeding; and there may occur cases in which bleeding may be useful; but, for the most part, it is unnecessary, and in many cases it might be very useful.

Purging has also been recommended; and, in some degree, it may be useful in drawing off the bile, or other putrescent matters frequently present in the intestines; but a large evacuation this way certainly may be hurtful.

DCII.

The moderating the violence of re-action, so far as it can be done by taking off the spasm of the extreme vessels, (CXXVI. 2.) is a measure of the utmost necessity in the cure of the plague; and the whole of the means (CLI. 1. CLII.) suited to this indication, are extremely proper.

DCIII.

DCIII.

The giving an emetic at the very first approach of the disease, would probably be of great service; and, it is likely, that, at some other periods of the disease, emetics might be useful, both by evacuating bile, abundant in the alimentary canal, and by taking off the spasm of the extreme vessels.

DCIV.

From some principles with respect to fever in general, and with respect to the plague in particular, I am of opinion, that, after the exhibition of the first vomit, the body should be disposed to sweat, which ought to be raised to a moderate degree only, but continued for at least twenty-four hours, or longer, if the patient bear it easily.

DCV.

DCV.

This sweating should be excited and conducted agreeably to the rules laid down in (CLXVII.). It is to be promoted by the plentiful use of diluents, rendered more grateful by vegetable acids, or more powerful, by being impregnated with some portion of neutral salts.

DCVI.

To support the patient under the continuance of the sweat, a little weak broth, acidulated with juice of lemons, may be given frequently, and sometimes a little wine, if the heat of the body be not considerable.

DCVII.

If sudorific medicines are judged to be necessary, opiates are the most effectual and
safe ;

safe ; but they should not be combined with aromatics ; and, probably, may be more effectual, if joined with a portion of emetics, and of neutral salts.

DCVIII.

If, notwithstanding the use of emetics and sudorifics in the beginning, the disease should still continue, the cure must turn upon the employment of means for obviating debility and putrescency ; and, for this purpose, the various remedies proposed above, (from CCII. to CCXXVI.) may all be administered, but especially the tonics ; and of these the chief are cold drink, and the Peruvian bark.

DCIX.

In the cure of the plague, some attention is due to the management of buboes and carbuncles ; but we do not touch this, as it belongs to the province of surgery.

C H A P. III.

O F T H E S M A L L - P O X .

DCX.

The small-pox is a disease arising from a contagion of a specific nature, which first produces a fever, and, on the third or fourth day thereof, produces an eruption of small inflamed pimples. They are afterwards formed into pustules, containing a matter, which, in the course of eight days from the time of the eruption, is changed into pus. After this, the matter dries, and falls off in crusts.

DCXI.

DCXI.

This is a general idea of the disease ; but there are two particular forms, or varieties of it, well known under the appellations of the Distinct and Confluent, which require to be specially described.

DCXII.

In the former, or the distinct small-pox, the eruptive fever is moderate, and appears to be evidently of the inflammatory kind, or what we name a synocha. It generally comes on about mid-day, with some symptoms of a cold stage, and commonly with a considerable languor and drowsiness. A hot stage is soon formed, and becomes more considerable on the second and third days. During this course, children are liable to frequent startings from their slumbers ; and adults, if they are kept a-bed, are disposed to much sweating. On the third day, children
dren

dren are sometimes affected with one or two epileptic fits. Towards the end of the third day, the eruption commonly appears, and gradually increases during the fourth; appearing first upon the face, and successively on the inferior parts, so as to be completed over the whole body on the fifth day.

From the third day, the fever abates, and against the fifth, it entirely ceases. The eruption appears first in small red spots, hardly eminent, but by degrees rising into pimples. These are generally upon the face in small number; but, even when more numerous, they are separate and distinct from one another. On the fifth or sixth day, a small vesicle, containing an almost colourless, or whey-coloured fluid, appears upon the top of each pimple. For two days, these vesicles increase in breadth only, and there is a small hollow pit in their middle, so that it is only against the eighth day that they are raised into spheroidical pustules.

These vesicles or pustules, from their first
formation,

formation, continue to be furrounded with an exactly circular inflamed margin, which, when the pustules are numerous, diffuses some inflammation over the neighbouring skin, so as to give somewhat of a damask rose colour to the spaces between the pustules. As the pustules increase in size, if they be numerous on the face against the eighth day, the whole of the face becomes considerably swelled; and, in particular, the eye-lids are so much swelled, as entirely to shut the eyes.

As the disease thus proceeds, the matter in the pustules becomes, by degrees, more opaque and white, and at length of a yellowish colour. On the eleventh day, the swelling of the face is abated, and the pustules seem quite full. On the top of each a darker spot appears; and at this place the pustule, on the eleventh day, or soon after, is spontaneously broken, and a portion of the matter oozes out; in consequence of which, the pustule is shrivelled, and

and subsides, while the matter oozing out dries, and forms a crust upon its surface. Sometimes a little only of the matter oozes out, and what remains in the pustule becomes thick, and even hard. After some days, both the crusts and the hardened pustules fall off, leaving the skin which they covered of a brown red colour ; and it is only after many days that the skin resumes its natural colour. In some cases, where the matter of the pustules has been more liquid, the crusts formed by it are later in falling off, and the part they covered suffers some desquamation, which leaves in it a small pit or hollow.

This is the course of things on the face ; and successively, the pustules on the rest of the body take the same. The matter of the pustules, on the arms and hands, is frequently absorbed ; so that, at the height of the disease, these pustules appear as empty vesicles. On the tenth and eleventh days, as the swelling of the face subsides, a swelling arises in
the

the hands and feet ; but which, again, subsides, as the pustules come to maturity.

When the pustules on the face are numerous, some degree of pyrexia appears on the tenth and eleventh days, but disappears again after the pustules are fully ripened ; or, perhaps, remains in a very slight degree till the pustules on the feet have finished their course. It is seldom that, in the distinct small-pox, the fever continues longer.

When the pustules on the face are numerous, some uneasiness in the throat, with a hoarseness of the voice, comes on, upon the sixth or seventh day, and a thin liquid is poured out from the mouth. These symptoms increase with the swelling of the face ; and the liquids of the mouth and throat becoming thicker, are more difficultly thrown out. There is, at the same time, some difficulty of swallowing, so that liquids taken in to be swallowed are frequently rejected, or thrown out by the nose.

But

But all these affections of the fauces abate, as the swelling of the face subsides.

DCXIII.

In the other form of small-pox, or what is called the Confluent, the course of the disease is, in general, the same with that we have described; but the symptoms of every stage are more violent, and several of the circumstances are different.

In particular, the eruptive fever is more violent. The pulse is more frequent and more contracted, approaching to that state of pulse which is found in the typhus. The coma is more considerable, and there is frequently a delirium. Vomiting, also, is a common symptom, especially at the coming on of the disease. In very young infants, epileptic fits are sometimes frequent on the first days of the disease, and sometimes prove fatal before any eruption appears; or they usher in a very confluent and putrid small-pox.

DCXIV.

DCXV.

The eruption appears more early on the third day, and it is frequently preceded or accompanied with an erysipelatous efflorescence. Sometimes the eruption appears in clusters, like that of the measles. When the eruption is completed, the pimples are always more numerous upon the face, and, at the same time, smaller and less eminent. After the eruption, the fever suffers some remission, but never goes off entirely; and, after the fifth or sixth day, it again increases, and continues considerable through the remaining course of the disease.

The vesicles formed on the tops of the pimples appear sooner; and, while they increase in breadth, do not retain a circular, but are every way of an irregular figure. Many of them run into one another, inasmuch, that very often the face is covered rather with one vesicle than with a number

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of

of pustules. The vesicles, so far as they are any ways separated, do not arise to a spheroidical form, but remain flat, and sometimes the whole of the face is of an even surface. When the pustules are in any measure separated, their circumference is not bounded by an inflamed margin, and the part of the skin that is free from pustules is commonly pale and flaccid.

The liquor that is in the pustules changes from a clear to an opaque appearance, and becomes whitish or brownish, but never acquires the yellow colour and thick consistence that appears in the distinct small-pox.

The swelling of the face which attends the distinct small-pox, when they are numerous, and almost then only, always attends the confluent, comes on more early, and arises to a greater degree, but abates on the tenth day, and on the eleventh still more. At this time the pustules or vesicles break, and shrivelling pour out a liquor that is formed into brown or black crusts, which

which do not fall off for many days after. Those of the face, in falling off, leave the parts they cover subject to a desquamation, which pretty certainly produces pittings.

On the other parts of the body, the pustules of the confluent small-pox are more distinct than upon the face, but never acquire the same maturity and consistence of pus, as in the properly distinct kind.

The salivation which, sometimes only, attends the distinct small-pox, very constantly attends the confluent ; and both the salivation and the affection of the fauces above mentioned, are, especially in adults, in a higher degree. In infants, a diarrhoea comes frequently in place of the salivation.

In the confluent small-pox, there is often a considerable putrescency of the fluids, as appears from petechiae, from serous vesicles, under which the skin shews a disposition to gangrene, and from bloody urine, or other haemorrhagy, all which symptoms frequently accompany this disease.

In

In the confluent small-pox, the fever, which had only suffered a remission from the time of eruption to that of maturation, is often at, or immediately after this period, renewed with considerable violence. This is what has been called the secondary fever, and is, in different cases, of various duration and event.

DCXV.

We have thus endeavoured to describe the various circumstances of the small-pox; and, from the difference of these circumstances, the event of the disease may be determined. The whole of the prognosis may be nearly comprised in the following propositions.

The more exactly the disease retains the form of the distinct kind, it is the safer; and the more completely the disease takes the form of the confluent kind, it is the more dangerous.

It

It is only when the distinct kind shews a great number of pustules on the face, or otherwise, by fever or putrescency, approaches to the circumstances of the confluent, that it is attended with any danger.

In the confluent small-pox there is always danger ; and this is always more considerable and certain, according as the fever is more violent and permanent, and especially as the marks and symptoms of putrescency are more evident.

When the putrid disposition is very great, the disease sometimes proves fatal before the eighth day ; but in most cases it is on the eleventh that death happens ; and sometimes it is put off till the fourteenth or seventeenth day.

Though the small-pox should not be immediately fatal, the more violent kinds are often followed by a morbid state of the body, of various kind and event. These consequences, as I judge, may be imputed, sometimes to an acrid matter produced by
the

the preceding disease, and deposited in different parts ; and sometimes to an inflammatory diathesis produced and determined to particular parts of the body.

DCXVI.

It is, I think, agreed among practitioners, that, in the different cases of small-pox, the difference chiefly depends upon the appearance of distinct or confluent ; and, from the above description of these kinds, it will appear, that they chiefly differ in the period of the eruption, in the number of pustules produced, in the form of the pustules, in the state of the matter contained in them, in the continuance of the fever, and, *lastly*, in the danger of the disease.

DCXVII.

Upon inquiring into the causes of these differences, we might readily suspect, that they depended upon a difference of the contagion

tagion producing the disease. This however is not probable ; for there are innumerable instances of the contagion arising from a person labouring under the small-pox, of the distinct kind, producing the confluent ; and, on the contrary. Since the practice of inoculation became frequent, we have known the same variolous matter produce, in one person, the distinct, and, in another, the confluent small-pox. It is, therefore, highly probable, that the difference of the small-pox does not depend upon any difference of the contagion, but upon some difference in the state of the persons to whom it is applied, or in the state of certain circumstances concurring with the application of the contagion.

DCXVIII.

To find out wherein the difference in the state of the persons to whom the contagion of the small-pox is applied, consists, I observe, that the difference between the distinct
and

and confluent small-pox consists especially in the number of pustules produced, which, in the distinct, are generally few; in the confluent always many. If, therefore, we shall be able to discover what, in the state of different persons, can give occasion to more or fewer pustules, we shall probably be able to account for all the other differences of the distinct and confluent small-pox.

DCXIX.

It is evident that the contagion of the small-pox is a ferment, with respect to the human fluids, and assimilates a great part of them to its own nature; and, it is probable, that the quantity thus assimilated is, in proportion to the bulk of their several bodies, nearly the same in different persons. This quantity passes again out of the body, partly by insensible perspiration, and partly by being deposited in pustules; but, if the quantities generated be nearly equal, the quantities passing out of the body by the two ways mentioned,

tioned; are very unequal in different persons; and, therefore, if we can explain the causes which determine more to pass by the one way than by the other, we may thereby discover the causes which give occasion to more pustules in one person than in another.

DCXX.

The causes which determine more of the variolous matter to pass by perspiration, or to form pustules, are probably certain circumstances of the skin, that determine more or less of the variolous matter to stick in it, or to pass freely through it.

DCXXI.

The circumstance of the skin, which seems to determine the variolous matter to stick in it, is a certain state of inflammation, depending much upon the heat of it: Thus we have many instances, of parts of the body, from being more heated, having a greater

number of pustules, than other parts. In the present practice of inoculation, in which few pustules are produced, much seems to be owing to the care that is taken to keep the skin cool. Parts covered with plasters, especially with those of a stimulant kind, have more pustules than other parts. Further, certain circumstances, such as adult age, and full living, determining to a phlogistic diathesis, seem to produce a greater number of pustules ; while the contrary circumstances have contrary effects.

DCXXII.

It is, therefore, probable, that an inflammatory state of the whole system, and more particularly of the skin, gives occasion to a greater number of pustules ; and the causes of this may likewise produce most of the other circumstances of the confluent small-pox ; such as the period of eruption ; the continuance of the fever ; the effusion of a more putrescent matter, and less fit to be

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converted into pus ; and, what arises from thence, the form and other circumstances of the pustules.

DCXXIII.

Having thus attempted to account for the chief difference which occurs in the state of the small-pox, we shall now try the truth of our doctrine, by its application to practice.

DCXXIV.

In considering the practice, we view it first, in general, as suited to render the disease more generally benign and safe, and this by the practice of inoculation.

DCXXV.

It is not necessary here to describe the operation of inoculating ; and what we name the practice of inoculation, comprehends all the several measures which precede or follow
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that operation, and are supposed to produce its salutary effects.

These measures are chiefly the following.

1. The choosing for the subject of inoculation persons otherwise free from disease, and not liable, from their age, or other circumstances, to any incidental disease.

2. The choosing a person at the time of life most favourable to a mild disease.

3. The choosing for the practice, a season the most conducive to the mildness of the disease.

4. The preparing the person to be inoculated, by abstinence from animal food for some time before inoculation.

5. The preparing the person by courses of mercurial and antimonial medicines.

6. The taking care, at the time of inoculation, to avoid cold, intemperance, fear, or other circumstances which might aggravate the future disease.

7. After these preparations and precautions, the choosing a fit matter to be employed in inoculation, by taking it from a person

person of a sound constitution, and free from any disease, or suspicion of it; by taking it from a person who has had the small-pox of the most benign kind; and, lastly, by taking the matter from such persons, as soon as it has appeared in the pustules, either in the part inoculated, or on other parts of the body.

8. The introducing, by inoculation, but a small portion of the contagious matter.

9. After inoculation, the continuing the vegetable diet, as well as the employment of mercurial and antimonial medicines, and, at the same time, frequently employing purgatives.

10. Both before and after inoculation, taking care to avoid external heat, either from the sun, artificial fires, warm chambers, much clothing, or being much in bed; and, on the contrary, exposing the person to a free and cool air.

11. Upon the appearance of the eruptive fever, the rendering that moderate by the
em-

employment of purgatives, by the use of cooling and antiseptic acids; and especially, by exposing the person frequently to a cool, and even a cold air, at the same time giving freely of cold drink.

12. After the eruption, the continuing the application of cold air, and the use of purgatives, during the course of the disease, till the pustules are fully ripened.

DCXXVI.

These are the measures proposed and practised in the latest and most improved state of inoculation; and the advantages obtained by the whole of the practice, or at least by most of the measures above mentioned, are now ascertained by a long experience; but it will still be useful, for the proper conduct of inoculation, to consider the importance and utility of the several measures above mentioned, that we may thereby more exactly determine upon what the advantages of inoculation more certainly depend.

DCCXXVII.

DCXXVII.

As the common infection may often seize persons under a diseased state, which may render the small-pox more violent, it is obvious that inoculation must have a great advantage, by avoiding such concurrence. But, as the avoiding such concurrence may often, in the mean while, leave persons exposed to the common infection, it merits inquiry, what are the diseased states which should restrain from the practice of inoculation. This is not yet sufficiently ascertained by observation; and we have frequently remarked, that the small-pox have often occurred with a diseased state of the body, without being thereby rendered more violent. In particular, we have observed, that a scrophulous habit, or even the presence of scrophula, did not render the small-pox more violent; and we have observed also, that several diseases of the skin are equally innocent. I am of opinion, that
they

they are the diseases of the febrile kind, or ailments ready to induce or aggravate a febrile state, that especially give the concurrence which is most dangerous with the small-pox. I dare not attempt any general rules ; but, I am disposed to maintain, that, though a person be in a diseased state, if that state be of uncertain nature and effect, and at the same time the small-pox be exceedingly rife, so as to render it extremely difficult to guard against the common infection, it will always be safer to give the small-pox by inoculation, than to leave the person to take them by the common infection.

DCXXVIII.

Though inoculation has been practised with safety upon persons of all ages ; yet, from what has actually occurred in the cases of common infection, and from several other considerations, there is reason to conclude, that adults are more liable to a violent disease

disease than persons of younger years. At the same time, it is observed, that children, in the time of their first dentition, are liable, from this irritation, to have the small-pox rendered more violent; and that infants, before the time of dentition, upon receiving the contagion of the small-pox, are liable to be affected with epileptic fits, which frequently prove fatal. It is, therefore, upon the whole, evident, that, though circumstances may admit, and even render inoculation at any age proper; yet, for the most part, it will be still more adviseable to choose persons at an age, after the first dentition is over, and before the time of puberty.

DCXXIX.

Though inoculation has been practised with safety at every season of the year; yet, as it is certain that the cold of winter may increase the inflammatory, and the heats of

summer increase the putrescent state of the small-pox, it is highly probable that inoculation may have some advantage, from avoiding the extremes either of heat or cold.

DCXXX.

As the use of animal food may increase both the inflammatory and putrescent state of the human body, so it must render persons, in receiving the contagion of the small-pox, less secure against a violent disease; and, therefore, inoculation may derive some advantage from abstinence from animal food for some time before the inoculation is performed; and, I am of opinion, that a longer time is necessary than that usually prescribed.

DCXXXI.

I cannot deny that mercurial and antimonial medicines may have some effect in
determining

determining to a more free perspiration, and, therefore, may be of some use in preparing a person for the small-pox; but there are many observations which render us doubtful as to their effect. The quantity of both these medicines, particularly of the antimony, commonly employed, is too inconsiderable to produce any effect. It is true, that the mercurials have often been employed more freely; but even their salutary effects have not been evident, and their mischievous effects have sometimes appeared. I doubt, therefore, upon the whole, if inoculation derives any advantage from these pretended preparatory courses of medicines.

DCXXXII.

As it has been often observed, in the case of almost all contagions, that cold, intemperance, fear, and some other circumstances, concurring with the application of the contagion, have greatly aggravated the future disease,

disease, so it must be the same in the case of the small-pox ; and, it is undoubted, that inoculation must derive a great, and perhaps its principal advantage, from avoiding the concurrences above mentioned.

DCXXXIII.

It has been commonly supposed that inoculation has derived some advantage from the choice of the matter employed in it ; but, from what has been observed in (DCXVII.), it must appear very doubtful if any choice be necessary, or can be of any benefit in determining the state of the disease.

DCXXXIV.

It has been supposed by some, that inoculation has an advantage, by introducing a small portion only of the contagious matter ; but this rests upon an uncertain foundation. It is not known what quantity is introduced

introduced by the common infection, and it may be a small quantity only. Although it were larger than that thrown in by inoculation, it is not ascertained that the circumstance of quantity would have any effect. A certain quantity of ferment may be necessary to excite fermentation in a given mass; but that quantity given, the fermentation and assimilation are extended to the whole mass; and we do not find that a greater quantity than is just necessary, either increases the activity of the fermentation, or more certainly secures the assimilation of the whole. In the case of the small-pox, a considerable difference in the quantity of contagion introduced, has not discovered any effect in modifying the disease.

DCXXXV.

Purging has the effect of diminishing the activity of the sanguiferous system, and of obviating its inflammatory state. It is therefore probable, that the frequent use of
cooling

cooling purgatives is a practice attending inoculation which may be of considerable advantage ; and, probably, it is also useful by diminishing the determination to the skin. It appears to me, that mercurials and antimonials, as they are commonly managed, are useful only as they make a part of the purging course.

DCXXXVI.

It is probable, that the state of the small-pox depends very much upon the state of the eruptive fever, and particularly upon moderating the inflammatory state of the skin ; and, therefore, it is probable, that the measures taken for moderating the eruptive fever, and inflammatory state of the skin, afford the greatest improvement which has been made in the practice of inoculation. The tendency of purging, and the use of acids, for this purpose, is sufficiently obvious ; and, upon the same grounds, we should suppose,

suppose, that blood-letting might be useful ; but, probably, this has been omitted ; from the same reason, which might perhaps have led to the omission of other remedies also, which is, that we have found a more powerful and effectual one in the application of cold air, and the use of cold drink. Whatever doubts or difficulties our theory might present to us on this subject, they may be entirely neglected, as the practice of Indostan had long ago, and the practice of this country has lately, by a large and repeated experience, ascertained the safety and efficacy of this remedy ; and as it may, and can be more certainly employed with the practice of inoculation, than it can be in cases of common infection, it must give a singular advantage to the former.

DCXXXVII.

The continuing, after the eruption, the application of cold air, and the use of purgatives, has been especially the practice of inoculators ;

culators ; but these cannot be otherwise said to give any peculiar advantages to inoculation ; and, if I mistake not, the employment of purgatives has often led to an abuse. When the state of the eruption is determined, when the number of pustules is very small, and the fever has entirely ceased, I hold the safety of the disease to be absolutely ascertained, and further remedies absolutely superfluous ; so that, in such cases, the use of purgatives is unnecessary, and may often be hurtful.

DCXXXVIII.

We have thus considered the several circumstances and practices accompanying inoculation, and have endeavoured to ascertain the utility and importance of each. Upon the whole, we hope we have sufficiently ascertained the utility and great advantage of this practice, particularly consisting in this, that, if certain precautions, preparations, and remedies are of importance, all of them
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can be employed with more certainty in the practice of inoculation, than in the case of common infection.

It remains now that we should offer some remarks on the conduct of the small-pox, as received by infection, or even when, after inoculation, the symptoms shall prove violent. The latter sometimes happens, although every precaution and remedy have been employed. The cause of this is not well known ; but it appears to me to be commonly owing to a disposition of the fluids to putrescency. But, however this may be, it will appear, that, not only in the case of common infection, but even in that of inoculation, there may be occasion for studying the conduct of this disease, in all its possible varying circumstances.

DCXXXIX.

When, from the prevailing of small-pox as an epidemic, and, more especially, when

it is known, that a person not formerly affected with the disease has been exposed to the infection, if such person should be seized with the symptoms of fever, there can be little doubt of its being an attack of the small-pox ; and, therefore, he is to be treated, in every respect, as if the disease had been received by inoculation. He is to be freely exposed to a cool air, to be purged, and to have cooling acids given liberally.

DCXL.

If these measures moderate the fever, nothing more is necessary ; but, if the nature of the fever attacking a person be uncertain, or if, with suspicions of the small-pox, the symptoms of the fever be violent, or even if, knowing the disease to be small-pox, the measures mentioned (DCXXXIX.) shall not moderate the fever sufficiently, it will be proper to let some blood ; and this will be more especially proper, if the person be an
adult

adult of a plethoric habit, and accustomed to full living.

DCXLI.

In the same circumstances, we judge it will be always proper to give a vomit, as useful in the commencement of all fevers, and more especially in this, where a determination to the stomach appears from pain and spontaneous vomiting.

DCXLII.

It frequently happens, especially in infants, that, during the eruptive fever of the small-pox, convulsions occur. Of these, if only one or two fits appear on the evening preceding the eruption, they give a favourable prognostic of a mild disease, and require no remedy ; but, if they occur more early, and be violent, and frequently repeated, they are very dangerous, and require a speedy remedy.

dy. For this purpose, bleeding is hardly ever of service; blistering always comes too late; and the only remedy I have found effectual, is an opiate given in a large dose.

DCXLIII.

These are the remedies necessary during the eruptive fever; and if, upon the eruption, the pimples upon the face be very few and distinct, the disease is no further of any danger, requires no remedies, and the purgatives, which, as has been said before, are by some practitioners continued, prove often hurtful.

But when, upon the eruption, the pimples on the face are very numerous, when they are not distinct, and, especially, when, upon the fifth day, the fever does not suffer a considerable remission, the disease will still require a great deal of attention.

DCXLIV.

DCXLIV.

If, after the eruption, the fever shall continue, the avoiding heat, and the continuing to expose the body to a cool air, will still be proper. If the fever be considerable, with a full and hard pulse, a bleeding in an adult person will be necessary ; and, more certainly, a cooling purgative. It is, however, seldom that a repetition of the bleeding will be proper, as a loss of strength does usually come on very soon ; but the repetition of a purgative, or the frequent use of laxative glysters, is commonly useful.

DCXLV.

When a loss of strength, with other marks of a putrescent tendency of the fluids, appears, it will be necessary to exhibit the Peruvian bark in substance, and in large quantity. In the same case, the free use of acids,
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and of nitre, is useful ; and, it is commonly proper, also, to give wine very freely.

DCXLVI.

From the fifth day of the disease, onward through the whole course of it, it is proper to give an opiate once or twice a-day, taking care, at the same time, to obviate costiveness, by purgatives, or laxative glysters.

DCXLVII.

In a violent disease, from the eight to the eleventh day, it is proper to lay on blisters successively, on different parts of the body, and that without regard to the parts being covered with pustules.

DCXLVIII.

If, in this disease, the tumour of the fauces be considerable, the deglutition difficult,
the

the saliva and mucus viscid, and with difficulty thrown out, it will be proper to apply blisters to the external fauces, and to employ diligently detergent gargles.

DCXLIX.

During the whole course of the disease, when any considerable fever is present, the frequent exhibition of antimonial medicines, in nauseating doses, has been found useful ; and these, for the most part, sufficiently answer the purpose of purgatives.

DCL.

The remedies mentioned (from DCXLIV. to DCXLIX.) are those frequently necessary, from the fifth day, till the suppuration is finished. But as, after that period, the fever is sometimes continued and increased ; or, as sometimes, when after there has been little or no fever before, a fever now arises,
and

and continues with considerable danger ; this is what is called the Secondary fever, and requires particular treatment.

DCLI.

When the secondary fever follows the distinct small-pox, and the pulse is full and hard, the case is to be treated as an inflammatory affection, by bleeding and purging. But, if the secondary fever follow the confluent small-pox, and be a continuance or exacerbation of the fever which had subsisted before, it is to be considered as of the putrid kind ; and, in that case, bleeding is improper. Some purging may be necessary ; but the remedies to be chiefly depended on, are the Peruvian bark and acids.

When the secondary fever first appears, whether it is after a distinct or a confluent small-pox, it will be useful to exhibit an antimonial emetic in nauseating doses, but in such manner as to produce some vomiting.

DCLII.

DCLII.

For avoiding the pits which frequently follow the small-pox, many different measures have been proposed ; but none of them appear to be sufficiently certain.

K

CHAP.

C H A P. IV,

O F T H E C H I C K E N - P O X .

DCLIII.

This disease seems to depend upon a specific contagion, and to affect persons but once in their lives. It is hardly ever attended with any danger ; but, as it seems frequently to have given occasion to the supposition of a person's having the small-pox twice, it is proper to study this disease, and to distinguish it from the genuine small-pox.

DCLIV.

This may be generally done by attending to the following circumstances.

The

The eruption of the chicken-pox comes on with very little fever preceding it, or with fever of no determined duration.

The pimples of the chicken-pox, more quickly than those of the small-pox, are formed into little vesicles or pustules.

The matter in these pustules remains fluid, and never acquires the colour or consistence of the pus which appears in the pustules of the small-pox.

The pustules of the chicken-pox are always, in three or four days from their first appearance, formed into crusts.

See Doctor Heberden in Med. Transact. vol. 1. art. xvii,

CHAP.

C H A P. V.

O F T H E M E A S L E S.

DCLV.

This disease also depends upon a specific contagion, and affects persons but once in their lives.

DCLVI.

It occurs most frequently in children ; but no age is exempted from it, if the persons have not been subjected to it before.

DCLVII.

It commonly appears as an epidemic, first in the month of January, and ceases soon
after

after the summer solstice ; but various accidents, introducing the contagion, may produce the disease at other times of the year.

DCLVIII.

The disease always begins with a cold stage, which is soon followed by a hot, with the ordinary symptoms of thirst, heat, anorexia, anxiety, sickness, and vomiting ; and these are more or less considerable in different cases. Sometimes from the beginning, the fever is sharp and violent ; often, for the first two days, it is obscure and inconsiderable, but always becomes violent before the eruption, which usually happens upon the fourth day.

DCLIX.

This eruptive fever, from its commencement, is always attended with hoarseness, with a frequent hoarse dry cough, and frequently

quently with some difficulty of breathing. At the same time, the eye-lids are somewhat swelled, the eyes are a little inflamed, and pour out tears; and, together with these symptoms, there is a corryza, and frequent sneezing. For the most part, a constant drowsiness attends the beginning of this disease.

DCLX.

The eruption, as we have said, commonly appears upon the fourth day, first on the face, and successively on the lower parts of the body. It discovers itself first in small red points; but, soon after, a number of these appear in clusters, which do not arise into visible pimples, but, by the touch are found to be a little prominent. This is the case on the face; but, on other parts of the body, the prominency, or roughness, is hardly to be perceived. On the face, the eruption retains its redness, or has that increased for two days; but, on the third, the vivid redness is changed

changed to a brownish red ; and, in a day or two more, the eruption entirely disappears, while a mealy desquamation takes place. During the whole period of the eruption, the face is somewhat turgid, but seldom considerably swelled.

DCLXI.

Sometimes after the eruption has appeared, the fever ceases entirely ; but this is seldom the case ; and more commonly the fever continues, or is increased after the eruption, and does not cease till after the desquamation. Even then, the fever does not always cease, but continues with various duration and effect.

DCLXII.

Though the fever happen to cease upon the eruption's taking place, it is common for
the

the cough to continue till after the desquamation, and sometimes much longer.

In all cases, while the fever continues, the cough also continues, generally with an increase of the difficulty of breathing; and both of these symptoms sometimes arise to a degree that denotes a pneumonic affection. This may arise at any period of the disease; but very often it does not come on till after the desquamation of the eruption.

After the same period, also, a diarrhoea frequently comes on, and continues for some time.

DCLXIII.

It is common for the measles, even when they have not been of a violent kind, to be succeeded by inflammatory affections, particularly ophthalmia and phthisis.

DCLXIV.

DCLXIV.

If the blood be drawn from a vein during the measles, with the circumstances necessary to favour the separation of the gluten, this always appears separated, and lying on the surface of the crassamentum, as in inflammatory diseases.

DCLXV.

For the most part, the measles, even when violent, are without any putrid tendency ; but, in some cases, such a tendency appears both in the course of the disease, and especially after the ordinary course of it is finished. See Dr Watson, in London Med. Observations, vol. iv. art. xi.

DCLXVI.

From what is delivered (from DCLV. to DCLXIV.) it will appear, that the measles

are distinguished by a catarrhal affection, and by an inflammatory diathesis, to a considerable degree ; and, therefore, the danger attending them arises chiefly from the coming on of a pneumonic inflammation.

DCLXVII.

From this consideration, it will be obvious, that the remedies especially necessary, are those which may obviate and diminish the inflammatory diathesis ; and, therefore, in a particular manner, blood-letting. This remedy may be employed at any time in the course of the disease, or after its ordinary course is finished. It is to be employed more or less, according to the urgency of the symptoms of fever, cough, and dyspnoea ; and generally may be employed very freely. But, as the symptoms of pneumonic inflammation seldom come on during the eruptive fever ; and, as this fever is sometimes violent, immediately before the eruption, though

though a sufficiently mild disease be to follow, so bleeding is seldom very necessary during the eruptive fever, and may often be reserved for the periods of greater danger, which are perhaps to ensue.

DCLXVIII.

In all cases of measles, where there are no marks of putrescency, and where there is no reason, from the known nature of the epidemic, to apprehend putrescency, bleeding is the remedy to be depended upon ; but assistance may also be obtained from cooling purgatives ; and particularly from blistering on the sides, or between the shoulders.

DCLXIX.

The dry cough may be alleviated by the large use of demulcent pectorals, mucilaginous, oily, or sweet. It may, however, be observed, with respect to these demulcents,
that

that they are not so powerful in involving and correcting the acrimony of the mass of blood as has been imagined, and that their chief operation is by besmearing the fauces, and thereby defending them from the irritation of acrids, either arising from the lungs, or distilling from the head.

DCLXX.

For moderating and quieting the cough in this disease, opiates certainly prove the most effectual means, whenever they can be safely employed. In the measles, in which an inflammatory state prevails in a considerable degree, opiates may be supposed to be inadmissible; and, in those cases in which a high degree of pyrexia and dyspnoea shew either the presence, or at least the danger of pneumonic inflammation, we think that opiates might be very hurtful. In cases, however, in which the dyspnoea is not considerable, and where bleeding, to obviate or
abate

abate the inflammatory state, has been duly employed, and where the cough and watchfulness are the urgent symptoms, I think that opiates may be safely exhibited, and with great advantage. I think, further, that, in all the exanthemata, there is an acrimony diffused over the system, which gives a considerable irritation; and, for obviating the effects of this, opiates are useful, and always proper, when no particular contra-indication prevails.

DCLXXI.

When the desquamation of the measles is finished, though there should then be no disorder remaining, physicians have thought it necessary to purge the patient several times, with a view to draw off the dregs of this disease, that is, a portion of the morbid matter which is supposed to remain long in the body. I cannot reject this supposition, but, at the same time, cannot believe that
the

the remains of the morbid matter, diffused over the whole mass of blood, can be entirely drawn off by purging ; and, it appears to me, that, to avoid the consequence of the measles, it is not the drawing off the morbid matter which we need to study, so much as the obviating and removing the inflammatory state of the system which had been induced by the disease. With this last view, indeed, purging may still be a proper remedy ; but bleeding, in proportion to the symptoms of inflammatory disposition, is yet more so.

DCLXXII.

From our late experience of the benefit of cold air in the eruptive fever of the small-pox, some physicians have been of opinion, that the practice might be transferred to the measles ; but we have not yet had trials sufficient to ascertain this. There is no doubt that external heat may be very
hurtful

hurtful in the measles, as in most other inflammatory diseases ; and, therefore, the body ought to be kept in a moderate temperature during the whole course of the measles ; but how far, at any period of the disease, cold air may be applied with safety, we are yet uncertain. Analogy, though so often the resource of physicians, is, in general, fallacious ; and, further, though the analogy with the small-pox might lead to the application of cold air during the eruptive fever of the measles, the analogy with catarrh seems to be against the practice. After the eruption is upon the skin, we have had many instances of cold air making it disappear, and thereby producing much disorder in the system ; and, we have also had frequent examples of such disorder being removed by restoring the heat of the body, and thereby again bringing forth the eruption.

C H A P. VI.

OF THE SCARLET FEVER.

DCLXXIII.

It may be doubted if the scarlet fever be a disease specifically different from the cynanche maligna above described. The latter is almost always attended with a scarlet eruption; and, in all the instances I have seen of what may be called the scarlet fever, the disease, in almost every person affected, has been attended with an ulcerous sore throat.

DCLXXIV.

This view of the matter may create some doubt; but I am still of opinion, that there

is a scarlet fever, which is a disease specifically different from the cynanche maligna.

Doctor Sydenham has described a scarlet fever, which he had seen prevailing as an epidemic, with all the circumstances of the fever and eruption, without its being accompanied with any affection of the throat; he at least does not take notice of any such affection, which such an accurate observer could not fail to have done, if any such symptom, as we have commonly seen making a principal part of the disease, had attended those cases which he had observed. Several other writers have described the scarlet fever in the same manner; and I know physicians who have seen the disease in that form; so that there can be no doubt of there being a scarlet fever not necessarily connected with an ulcerous fore throat, and therefore a disease different from the cynanche maligna.

DCLXXV.

But, further, although in all the instances of scarlet fever which I have seen, (and in the course of forty years I have seen it five or six times prevailing as an epidemic in Scotland,) the disease, in almost all the persons affected, was attended with an ulcerous sore throat, or was what Sauvages names the *Scarlatina Anginosa* ; and although, in some instances, the ulcers of the throat were of a putrid and gangrenous kind, and, at the same time, the disease, in all its symptoms, resembled, very exactly, the *Cynanche Maligna* ; yet, I am still persuaded, that not only the *Scarlatina* of Sydenham, but that even the *Scarlatina Anginosa* of Sauvages, is a different disease from the *Cynanche Maligna* ; and I have formed this opinion from the following considerations.

DCLXXVI.

DCLXXVI.

1st, There is a scarlet fever entirely free from any affection of the throat, which sometimes prevails as an epidemic; and, therefore, there is a specific contagion producing a scarlet eruption without any determination to the throat.

2^{dly}, The Scarlatina, which, from its matter being generally determined to the throat, may be properly termed Anginosa, has, in many cases of the same epidemic, been without any affection of the throat; and, therefore, the contagion may be supposed to be more especially determined to produce the eruption only.

3^{dly}, Though in all the epidemics that I could alledge to be those of the Scarlatina Anginosa, there have been some cases which, in the nature of the ulcers, and in other circumstances, exactly resembled the cases of the Cynanche Maligna; yet, I have as constantly remarked, that these cases have not
been

been above one or two in a hundred, while the rest have all of them been with ulcers of a benign kind, and with circumstances hereafter to be described, somewhat different from those of the Cynanche Maligna.

4thly, On the other hand, as I have two or three times seen the Cynanche Maligna epidemically prevailing, so, among the persons affected, I have seen instances of cases as mild as those of the Scarlatina Anginosa usually are ; but here the proportion was reversed ; and these mild cases were not one fifth of the whole, while the rest were of the putrid and malignant kind.

Lastly, It applies to the same purpose to observe, that, of the Cynanche Maligna, most of the instances terminate fatally, while, on the other hand, that is the event of very few of the cases of the Scarlatina Anginosa.

DCLXXVII.

From these considerations, though it may appear that there is some affinity between
the

the Cynanche Maligna and Scarlatina Anginosa, it will still remain probable, that the two diseases are specifically different. I have been at some pains to establish this opinion ; for, from all my experience, I find, that those two diseases require a different treatment ; and I therefore now proceed to mention more particularly the circumstances of the Scarlatina Anginosa.

DCLXXVIII.

This disease commonly appears about the beginning of winter, and continues throughout that season. It comes on with some cold shivering, and other symptoms of the fever which usually introduces the other exanthemata. But here there is no cough, nor the other catarrhal symptoms which attend the measles ; nor is there that anxiety and vomiting which commonly introduce the confluent small-pox, and which still more certainly introduce the Cynanche Maligna.

Early

Early in the disease, some uneasiness is felt in the throat, and frequently the deglutition is difficult, generally more so than in the Cynanche Maligna. Upon looking into the fauces, a redness and swelling appear, in colour and bulk approaching to the state of these symptoms in the Cynanche Tonsillaris ; but, in the Scarlatina, there is always more or less of sloughs, which seldom appear in the Cynanche Tonsillaris ; and the sloughs are commonly whiter than these in the Cynanche Maligna.

While these appearances are discovered in the fauces, upon the third or fourth day a scarlet eruption appears on the skin, in the same form as described in (CCCXI.) This eruption is commonly more considerable and universal than in the Cynanche ; but it seldom produces a remission of the fever. The eruption for the most part remains till the third or fourth day after its first appearance, but then goes off, ending in a mealy desquamation. At this time the fever usually subsides ;

subsides ; and, generally, at the same time, some degree of sweat comes on.

The sloughs on the fauces, which appeared early in the disease, continue for some days ; but then falling off, discover the swelling abated, and an ulcer formed on one or both tonsils, shewing a laudable pus ; and soon after the fever has subsided, these ulcers heal up entirely. For the most part, this disease has much less of coryza attending it than the Cynanche Maligna ; and, when there is a coryza attending the Scarlatina, the matter discharged is less acrid, and has not the foetid smell which it has in the other disease.

In the Scarlatina, when the eruption has entirely disappeared, it frequently happens, that, in a few days after, the whole body is affected with an anasarcaous swelling, which, however, in a few days more, gradually subsides.

We have thus described the most common circumstances of the Scarlatina Anginosa ;

nosa ; and have only to add, that, during the time of its being epidemic, and especially upon its first setting in, there are always a few cases, in which the circumstances of the disease approach very nearly to those of the Cynanche Maligna ; and it is only in these instances that the disease is attended with any danger.

DCLXXIX.

With respect to the cure of this disease, when the symptoms of it are nearly the same with those of the Cynanche Maligna, it requires exactly the same treatment as directed in (CCCXIV.)

DCLXXX.

When the scarlet fever appears, without any affection of the throat, the treatment of it is very simple, and is delivered by Dr Sydenham. An antiphlogistic regimen is commonly all that is requisite, avoiding, on
one

one hand, the application of cold air, and, on the other, any increase of external heat.

DCLXXXI.

In the ordinary state of the Scarlatina Anginosa, the same treatment is, in most cases, sufficient ; but as here the fever is commonly more considerable, and there is likewise an affection of the throat, some remedies may be often necessary.

DCLXXXII.

When there is a pretty high degree of fever, with a full pulse, and a considerable swelling of the tonsils, bleeding is very proper, especially in adults; and it has been frequently practised with advantage; but as, even in the Cynanche Tonsillaris, much bleeding is seldom necessary, (CCCGIII.) so, in the Scarlatina, when the state of the fever, and the appearances of the fauces render the

nature of the disease ambiguous, bleeding may be omitted, and, if not altogether avoided, it should at least not be large, and ought not to be repeated.

DCLXXXIII.

Vomiting, and especially nauseating doses of emetics, notwithstanding the inflamed state of the fauces, have been found very useful in this disease. An open belly is proper in every form of this disease ; and when the nauseating doses of emetics operate a little downwards, they are more serviceable.

DCLXXXIV.

In every form of the Scarlatina Anginosa, through the whole course of it, detergent gargles should be employed, and more or less as the quantity of sloughs, and the viscid mucus in the fauces may seem to require.

DCLXXXV.

DCLXXXV.

Even in the milder states of the Scarlatina anginosa, it has been common with practitioners to exhibit the Peruvian bark through the whole course of the disease ; but we are assured, by much experience, that, in such cases, it may be safely omitted, though in cases any ways ambiguous it may not be prudent to neglect this remedy.

DCLXXXVI.

The anasarcaous swelling which frequently follows the Scarlatina Anginosa, seldom requires any remedy ; and, at least, the purgatives so much inculcated, and so commonly exhibited, soon take off the anasarca.

C H A P. VII.

O F T H E M I L I A R Y F E V E R.

DCLXXXVII.

This disease is said to have been unknown to the antients, and that it appeared, for the first time, in Saxony, about the middle of the last century. It is said to have spread from thence into all the other parts of Europe; and, since the period mentioned, to have appeared in many countries in which it had never appeared before.

DCLXXXVIII.

From the time of its having been first particularly observed, it has been described and
treated

treated of by many different writers, and by all of them, till very lately, has been considered as a peculiar idiopathic disease.

It is said to have been constantly attended with peculiar symptoms. It comes on with a cold stage, which is often considerable. The hot stage, which succeeds, is attended with great anxiety, and frequent sighing. The heat of the body becomes great, and soon produces profuse sweating, preceded, however, by a sense of pricking, as of pin points in the skin; and the sweat is of a peculiarly rank and disagreeable odour. The eruption appears, sooner or later, in different persons, but at no determined period of the disease. It seldom or never appears upon the face; but discovers itself first upon the neck and breast, and from thence often spreads over the whole body.

DCLXXXIX.

The eruption named miliary is said to be of two kinds, the one named the Red, the other

other the White Miliary. The former, which in English is strictly named a Rash, is commonly allowed to be a symptomatic affection ; and, as the latter is the only one that has any pretensions to be considered as an idiopathic disease, it is this alone that we shall more particularly describe and treat of in the present chapter.

DCXC.

What then is called the White Miliary eruption, appears at first like the red, in very small red pimples, for the most part distinct, but sometimes clustered together. Their slight prominence is distinguished better by the finger than by the eye. Soon after the appearance of this eruption, and, at least, on the second day, a small vesicle appears upon the top of each pimple. At first the vesicle is whey coloured, but soon becomes white, and stands out like a little globule on the top of the pimple. In two or three days, these
globules

globules break, or are rubbed off, and are succeeded by small crusts, which soon after fall off in small scales. While one set of pimples takes this course, another set succeeds, so that the disease often continues upon the skin for many days together. Sometimes when one crop of this eruption has disappeared, another, after some interval, is produced. And, it has been further observed, that, in some persons, there is such a tendency to this disease, that they have been affected with it several times in the course of their lives.

DCXCI.

This disease is said to affect both sexes, and persons of all ages and constitutions; but it has been observed, at all times, to affect especially, and most frequently, lying-in women.

DCXCII.

DCXCII.

This disease is often accompanied with violent symptoms, and has frequently proved fatal. The symptoms attending it, are, however, very various. They are, in one or other instance, all the several symptoms, attending febrile diseases ; but I cannot find that any symptom, or concurrence of symptoms, are steadily the same in different persons, so as to furnish any specific character to the disease. When the disease is violent, the most common symptoms are phrenetic, comatose, and convulsive affections, which are also symptoms of all fevers treated by a very warm regimen.

DCXCIII.

While there is such a variety of symptoms appearing in this disease, it is not to be expected that any one particular method of cure can be proposed ; and, accordingly, we
find

find, in different writers, different methods and remedies prescribed ; frequent disputes about the most proper, and those received and practised by some, opposed and rejected by others.

DCXCIV.

I have thus given an account of what I have found delivered by authors who have considered the white miliary fever as an idiopathic disease ; but, now, after having often observed the disease, I must say that I doubt much if it ever be such an idiopathic as has been supposed ; and I suspect that there is much fallacy in what has been written on the subject.

DCXCV.

It seems to me very improbable that this should have been really a new disease, when it was first considered as such. There appear to me very clear traces of it in au-

thors who wrote long before that period; and, though there were not, we know that the descriptions of the antients were inaccurate and imperfect, particularly with respect to cutaneous affections; whilst we know also very well, that those affections which usually appeared as symptomatic only, were commonly neglected, or confounded together, under a general appellation.

DCXCVI.

The antecedent symptoms of anxiety, sighing, and pricking of the skin, which have been spoken of as peculiar to this disease, are, however, common to many others, and, perhaps, to all those in which sweatings are forced out by a warm regimen.

Of the symptoms said to be concomitant of this eruption, there are none which can be said to be constant and peculiar but that of sweating. This, indeed, always precedes and accompanies the eruption; and, while the miliary eruption attends many different diseases,

diseases, it never, however, appears in any of these, but after sweating; and, in persons labouring under these diseases, it does not appear, if sweating be avoided. It is, therefore, probable, that the eruption is the effect of sweating, and that it is the produce of a matter, not before prevailing in the mass of blood, but generated, under particular circumstances, in the skin itself. That it depends upon particular circumstances of the skin, appears further from hence, that the eruption seldom or never appears upon the face, although it affects the whole of the body besides; that it comes upon those places especially which are more closely covered; and that it can be brought out upon particular parts by external applications.

DCXCVII.

It is to be observed, that this eruptive disease differs from the other exanthemata in many circumstances; in its not being contagious, and therefore never epidemic; that
the

the eruption appears at no determined period of the disease; that the eruption has no determined duration; that successive eruptions frequently appear in the course of the same fever; and that such eruptions frequently recur in the course of the same person's life.

All these circumstances render it extremely probable, that, in the miliary fever, the morbid matter is not a subsisting contagion communicated to the blood, and thence, in consequence of fever and assimilation, thrown out upon the surface of the body, but a matter occasionally produced in the skin itself, by sweating.

DCXCVIII.

This conclusion is further rendered probable from hence, that, while the miliary eruption has no peculiar symptoms, or concurrence of symptoms belonging to it, yet, upon occasion, it accompanies almost all febrile diseases, whether inflammatory or putrid,

trid, if these happen to be attended with sweating; and from thence it may be presumed, that the miliary eruption is a symptomatic affection only, produced in the manner we have said.

DCXCIX.

But, as this symptomatic affection does not always accompany every instance of sweating; it may be proper to inquire, what are the circumstances which especially determine this eruption to appear? To this, however, I can give no full and proper answer. I cannot say that there is any one circumstance which in all cases gives occasion to this eruption; nor can I say what different causes may, in different cases, give occasion to it. There is only one observation I can offer to the purpose of this inquiry; and it is, that, of the persons sweating under febrile diseases, those are especially liable to the miliary eruption, who have been previously weakened
by

by large evacuations, particularly of blood. This will explain why it happens to lying-in-women more frequently than to any other persons ; and to confirm this explanation, I have remarked, that the eruption has happened to women not in child-bed, but who had been much subjected to a frequent and copious menstruation, and to an almost constant *fluor albus*. I have also had occasion to observe it happen to men in fevers, after wounds, from which they had suffered a great loss of blood.

Further, that this eruption is produced by a certain state of debility, will appear probable, from its so often occurring in fevers of the putrid kind, which are always attended with great debility. It is true, that it also sometimes attends inflammatory diseases, when it cannot be accounted for in the same manner ; but I believe it will be found to attend especially those inflammatory diseases in which the sweats have been long protracted, or frequently repeated,
and

and which have thereby produced a debility, and, perhaps, a debilitating putrid diathesis.

DCC.

It appears so clearly to me that this eruption is always a symptomatic and factitious affection, that I am persuaded it may be, in most cases, prevented merely by avoiding sweats. Spontaneous sweatings, in the beginning of diseases, are very rarely critical ; all sweatings, not evidently critical, should be prevented ; and the promoting them, by increasing external heat, is commonly very pernicious. Even critical sweats should hardly be encouraged by such means. If, therefore, spontaneous sweats arise, they are to be checked by the coolness of the chamber ; by the lightness and looseness of the bed-clothes ; by the persons laying out their hands and arms ; and by their taking cold drink ; and, by these precautions, I think I have frequently prevented miliary eruptions, which

which were otherwise likely to have appeared, particularly in lying-in-women.

DCCI.

But, it may happen, when these precautions have been neglected, or from other circumstances, that a miliary eruption does actually appear; and the question will then be put, how the case is to be treated? It is a question of consequence, because I believe that the matter here generated is often of a virulent kind; it is frequently the offspring of putrescency; and, when treated by increasing the external heat of the body, it seems to acquire a virulence which produces those symptoms mentioned in (DCXCII.), and proves certainly fatal.

It has been an unhappy opinion with most physicians, that eruptive diseases were ready to be hurt by cold, and that it was therefore necessary to cover up the body very closely, so as thereby to increase the external heat.

heat. We now know that this is a mistaken opinion; that increasing the external heat of the body is very generally mischievous; and that several eruptions not only admit, but require the application of cold air. We are now persuaded, that the practice which formerly prevailed, in the case of miliary eruptions, of covering up the body close, and both by external means, and internal remedies, encouraging the sweatings which accompany this eruption, was highly pernicious, and commonly fatal. I am, therefore, of opinion, even when a miliary eruption has appeared, that in all cases where the sweating is not manifestly critical, we should employ all the several means of stopping it that are mentioned above; and I have sometimes had occasion to observe, that even the admission of cool air was safe and useful.

DCCII.

This is, in general, the treatment of miliary eruptions; but, at the same time, the

remedies suited to the primary disease are to be employed ; and, therefore, when the eruption happens to accompany inflammatory affections, and when the fulness and hardness of the pulse, or other symptoms, shew an inflammatory state present, the case is to be treated by blood-letting, purging, and other antiphlogistic remedies.

Upon the other hand, when the miliary eruption attends diseases, in which debility and putrescency prevail, it will be proper to avoid all evacuations, and employ tonic and antiseptic remedies, particularly the Peruvian bark, cold drink, and cold air.

We shall conclude this subject with mentioning, that the venerable octogenarian practitioner, de Fischer, when treating of this subject, in laying down the indications of cure, has given this as one of them :
' *Excretionis periphericae non primariam habere rationem.*'

C H A P. VIII.

OF THE REMAINING EXANTHEMATA.

URTICARIA, PEMPHIGUS, AND APHTHA.

DCCIII.

The Nettle Rash is a name applied to two different diseases. The one is the chronic eruption, described by Dr Herberden in the Medical Transactions, vol. 1. art. xvii. which, as not being a febrile disorder, does not belong to this place. The other is the Urticaria of our synopsis, which, as taken into every system of Nosology as one of the Exanthemata Febrilia, is properly to be treated of here.

DCCIV.

DCCIV.

I have never observed this disease as contagious and epidemic ; and the few sporadic cases of it which have occurred to me, have seldom taken the regular course described by authors. At the same time, as the accounts of different authors are not very uniform, and hardly consistent, I cannot enter further into the consideration of this subject ; and, I hope, it is not very necessary, as, on all hands, it is agreed to be a mild disease, and such as seldom requires the use of remedies. It is generally sufficient to observe an antiphlogistic regimen, and to keep the patient in a temperature that is neither hot nor cold.

DCCV.

The pemphigus, or Vesicular fever, is a rare and uncommon disease, and very few instances

instances of it are recorded in the writings of physicians. As I have never had occasion to see it, it would be improper for me to treat of it, and I don't choose to repeat after others, while the disease has yet been little observed, and its character does not seem to be exactly ascertained. Vid. *Acta Helvetica*, vol. 2. p. 260.

DCCVI.

The Aphtha, or Thrush, is a disease better known; and, as it commonly appears in infants, it is so well understood as not to need our treating of it here. As an idiopathic disease, affecting adults, I have not seen it in this country; but it seems to be more frequent in Holland; and, therefore, for the study of it, I refer to Dr Boerhaave, and his commentator Van Swieten, whose works are in every body's hands.

DCCVII.

DCCVII.

The Petechia has been, by all our Nosologists, enumerated amongst the exanthemata; but as, according to the opinion of most physicians, it is very justly held to be always, a symptomatic affection only, I cannot give it a place here.

BOOK

B O O K IV.

OF HEMORRHAGIES.

C H A P. I.

OF HEMORRHAGY IN GENERAL.

DCCVIII.

IN establishing a class, or order of diseases, under the title of HEMORRHAGIES, the Nosologists have employed the single circumstance of an effusion of red blood, as the character of such a class or order. By this means, they have associated diseases, which
in

in their nature are very different ; but, in every methodical distribution, such arbitrary and unnatural affociations should be avoided as much as possible. Further, by that management, the Nosologists have suppressed or lost sight of an useful distinction before established, and very well founded, which is that of *Active* and *Passive* Hemorrhagies.

DCCIX.

We mean to restore this distinction ; and, therefore, here, under the title of Hemorrhagies, shall comprehend those only which have been commonly called Active, that is, those which are attended with some degree of Pyrexia ; which seem always to depend upon an increased impetus of the blood in the vessels pouring it out ; and which chiefly arise from an internal cause. In this we follow Doctor Hoffman, who joins the Active Hemorrhagies with the febrile diseases ; and

we have accordingly established these hemorrhagies as an order in the class of Pyrexiae. From this order we exclude all those effusions of red blood which are owing entirely to external violence; and all those which, though from internal causes, are, however, without pyrexia, and which seem to be owing to a putrid fluidity of the blood, to the weakness, or to the erosion of the vessels, rather than to any increased impetus of the blood in them.

DCCX.

With a view to treat of those proper hemorrhagies of which we have formed an order in our Nosology, we shall first treat of active hemorrhagy in general; and we judge the several genera and species to be treated of particularly afterwards, to have so many circumstances in common with one another, that the general consideration is both proper, and may be very useful.

S E C T. I.

OF THE PHENOMENA OF HEMORRHAGY.

DCCXI.

We begin first with marking the phenomena of Hemorrhagy, which are generally the following.

Hemorrhagies happen especially in plethoric habits, and in persons of a sanguine temperament ; they appear most commonly in the spring, or in the beginning of summer.

For some time, longer or shorter in different cases, before the blood flows, there are some symptoms of fulness and tension about the part from which the blood is to issue. In such parts as fall under our view,
there

there are some redness, swelling, and sense of heat, or of itching ; and in the internal parts, from which blood is to flow, there is a sense of weight and heat ; and, in both cases, various pains are often felt in the neighbouring parts.

DCCXII.

When these symptoms have subsisted for some time, some degree of a cold stage of fever comes on, and a hot stage is formed, during which the blood flows of a florid colour, in a greater or less quantity, and continues to flow for a longer or shorter time ; but commonly, after some time, the effusion spontaneously ceases, and with that the fever also.

DCCXIII.

During the hot stage which precedes a hemorrhagy, the pulse is frequent, quick,
full,

full, and often hard ; but, as the blood flows, the pulse becomes softer, and less frequent.

DCCXIV.

In hemorrhagies, blood drawn from a vein, upon its concreting, commonly shows the gluten separated, or a crust formed, as in the cases of Phlegmasiae.

DCCXV.

Hemorrhagies, from internal causes, having once happened, are apt, after a certain interval, to return ; sometimes very often, and frequently at stated periods.

DCCXVI.

These are, in general, the phenomena of hemorrhagy ; and if, in some cases, all of them be not exquisitely marked ; or if, perhaps,

perhaps, some of them do not at all appear, it imports only, that, in different cases, the system is more or less generally affected; and that, in some cases, there are purely topical hemorrhagies, as there are purely topical inflammations.

§ E C T II.

OF THE PROXIMATE CAUSE OF HEMOR-
RHAGY.

DCCXVII.

The pathology of hemorrhagy seems to be sufficiently obvious. Some inequality in the distribution of the blood, occasions a congestion in particular parts of the sanguiferous system; that is, a greater quantity
of

of blood is poured into certain vessels than their natural capacity is suited to receive. These vessels become, thereby, preternaturally distended ; and this distention proves a stimulus to them, exciting their action to a greater degree than usual, which, pushing the blood with unusual force into the extremities of these vessels, opens them by Anastomosis, or rupture ; and, if these extremities be loosely situated on external surfaces, or on the internal surfaces of certain cavities which open outwardly, a quantity of blood flows out of the body.

DCCXVIII.

This reasoning will, in some measure, explain the production of hemorrhagy ; but, it appears to me, that, in most cases, there is something more to be taken into the account ; for it is probable, that, in consequence of congestion, a sense of resistance

tance arises, and excites the action of the *Vis Medicatrix Naturae* ; and the exertions of this are usually made by the formation of a cold stage of fever, inducing a more vigorous action of the vessels ; and the concurrence of this exertion more effectually opens the extremities, and occasions the flowing out of the blood.

DCCXIX.

What is delivered in the two preceding paragraphs, seems to explain the whole phenomena of hemorrhagy, except the circumstance of its frequent recurrence, which we apprehend may be explained in the following manner. The congestion and consequent irritation are taken off by the flowing of the blood ; which, therefore, after some time, spontaneously ceases ; but, at the same time, the internal causes which before produced the unequal distribution
of

of the blood, commonly remain, and must now operate the more readily, as the over-stretched and relaxed vessels of the part will now more readily admit of a congestion of blood in them, and, consequently, produce the same series of phenomena as before.

DCCXX.

This may sufficiently explain the ordinary return of hemorrhagy; but there is still another circumstance, which, as commonly concurring, is to be taken notice of; that is, the general plethoric state of the system, which renders every cause of unequal distribution of more considerable effect. Though hemorrhagy may often depend upon the state of the vessels of a particular part, favourable to a congestion's being formed in them; yet, in order to that state's producing its effect, it is necessary that the whole system be in its natural plethoric condition; and, if
this

this should be in any degree beyond what is natural, it will more certainly determine the effects of topical conformation to take place. The return of hemorrhagy, therefore, will be more certainly occasioned, if the system becomes preternaturally plethoric; but hemorrhagy has always a tendency to increase the plethoric state of the system, and, consequently, to occasion its own return.

DCCXXI.

To shew that Hemorrhagy does contribute to produce or increase the plethoric state of the system, it is only necessary to observe, that the quantity of serous fluids being given, the state of the excretions depends upon a certain balance between the force of the larger arteries, propelling the blood, and the resistance of the excretories; but the force of the arteries depends upon

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their fullness and distention, chiefly given to them by the quantity of red globules and gluten, which are, for the greatest part, confined to the red arteries ; and, therefore, the *spoliation* made by a hemorrhagy, being chiefly of red globules and gluten, the effusion of blood must leave the red arteries more empty and weak. In consequence of the weaker action of the red arteries, the excretions are in proportion diminished ; and, therefore, the *ingesta* continuing the same, more fluids will be accumulated in the vessels. It is by this means that the loss of blood by hemorrhagies, whether artificial or spontaneous, if within certain bounds, is commonly so soon recovered ; but, as the diminution of the excretions, from a less quantity of fluid being impelled into the excretories, gives occasion to these vessels to fall into a contracted state ; so, if this shall continue long, these vessels will become more rigid, and will not yield to
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the same impelling force as before. Though the arteries, therefore, by new blood collected in them, shall have recovered their former fulness, tension, and force, yet this force will not be in balance with the resistance of the more rigid excretories, so as to restore the former state of excretion; and, therefore, a further accumulation will take place in the arteries, and an increase of their plethoric state be thereby induced. In this manner, we perceive more clearly, that hemorrhagy, as producing a more plethoric state of the system, has a tendency to occasion its own recurrence with greater violence; and, as the renewal and further accumulation of blood require a determined time, so, in the several repetitions of hemorrhagy, that time will be nearly the same; and, therefore, the returns of hemorrhagy will be commonly at stated periods, as has been observed frequently to happen.

DCCXXII.

We have thus explained the nature of hemorrhagy in general, as depending upon some inequality in the distribution of the blood, occasioning a congestion of it in particular parts of the sanguiferous system. It is indeed probable, that, in most persons, the several parts of the sanguiferous system are in balance with one another, and that the density, and consequently the resistance, in the several vessels, is in proportion to the quantity of blood that each should receive; and hence it frequently happens, that no inequality in the distribution of the blood shall appear in the course of a long life. But, if we consider that the sanguiferous system is constantly in a plethoric state, that is, that the vessels are constantly distended beyond that size which they would be of, if they were free from any distending force, we shall

shall perceive, that this state may be readily changed. For as, on one hand, the vessels are elastic, and therefore under a constant tendency to contract upon the withdrawing of any part of the distending force; and, on the other hand, they are not so rigid but that, by an increase of the impetus of the blood in them, they may be more than ordinarily distended; so we can perceive, that, in most persons, causes of an increased contraction or distention may arise in one part or other of the system, or that an unequal distribution may take place; and, in an exquisitely distended or plethoric system, a small inequality in the distribution of the blood may form those congestions which give occasion to hemorrhagy.

DCCXXIII.

In this manner we explain how hemorrhagy may be occasioned at any period of
life,

life, or in any part of the body; but hemorrhagies happen in certain parts more frequently than in others, and at certain periods of life more readily than at others; and, therefore, in delivering the general doctrine of hemorrhagy, it may be required, that we should explain those circumstances which produce the specialities mentioned; and we attempt it as follows.

DCCXXIV.

The human body, from being of a small bulk at its first formation, grows afterwards to a considerable size. This increase of bulk consists, in a great measure, in the increase of the quantity of fluids, and a proportional enlargement of the containing vessels. But, at the same time, the quantity of solid matter is also gradually increased; and, in whatever manner we may suppose this to be done, it is probable that the progress, in
the

the whole of the growth of animal bodies, depends upon the extension of the arterial system ; and such is the constitution of the sanguiferous system, that the motion of the blood in the arteries has a constant tendency to extend them in every dimension.

DCCXXV.

As the state of the animal solid is, at the first formation of the body, very lax and yielding, so the extension of the system proceeds, at first, very fast ; but, as the extension gives occasion to the apposition of more matter to the solid parts, these are, in proportion to their extension, constantly acquiring a greater density, and therefore giving more resistance to their further extension and growth. Accordingly, we observe, that, as the growth of the body advances, the increase of it, in any given time, becomes

comes proportionally less and less, till at length it ceases altogether.

DCCXXVI.

This is the general idea of the growth of the human body, till it attains the utmost bulk which it is capable of acquiring; but, it is to be observed, that this growth does not proceed equally in every part of the body, as it is for the purpose of the oeconomy that certain parts should be first evolved, and should also acquire their full bulk sooner than others. This appears particularly with respect to the head, the parts of which appear to be first evolved, and soonest to acquire their full size.

DCCXXVII.

To favour this unequal growth, it is presumed, that the dimensions or the laxity of
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the vessels of the head, or that the direction of the force of the blood, are suited to the purpose; and from what has been said in (DCCXXIV.), it will also certainly follow, that, as the vessels of the head grow fastest, and soonest acquire their full size, so they will soonest also acquire that density which will prevent their further extension. While, however, the force of the heart, and the quantity of the fluids, with respect to the whole system, remain the same, the distending and extending powers will be directed to such parts as have not yet acquired the same density and dimensions as those first evolved; and thus the distending and extending powers will proceed to operate till every part of the system, in respect of density and resistance, shall be brought to be in balance with every other, and till the whole be in balance with the force of the heart, so that there can be no further growth in any particular part, unless some pre-

ternatural circumstance shall happen to arise.

DCCXXVIII.

In this process of the growth of the body, as it seems in general to depend upon a certain balance between the force of the heart, or distending power, and the resistance of the solids; so it will appear, that, while the solids remain very lax and yielding, some occasional increase of the distending power may arise without producing any very perceptible disorder in the system. But, it will also appear, that, in proportion as the distending power and resistance of the solids come to be more nearly in exact balance with one another, so any increase of the distending power will more readily produce a rupture of vessels, which do not readily yield to extension.

DCCXXIX.

DCCXXIX.

From all this, it must appear, that the effects of any unusually plethoric state of the system, will be different according as this shall occur at different periods of the growth of the body. - Accordingly, it is evident, that, if the plethoric state arises while the head is yet growing, and the determination of the blood be still more to the head than to the other parts, the increased quantity of the blood will be especially determined to the head; and as there also, at the same time, the balance between the distending and extending powers is most nearly adjusted; so the determination of the blood will most readily produce, in that part, a rupture of the vessels, or a hemorrhagy. Hence it is, that hemorrhagies of the nose so frequently happen in young persons; and in these more readily, as they approach nearer to their acmé, or full growth; or, it
may

may be said, perhaps more properly, as they approach nearer to the age of puberty, when, perhaps, in both sexes, but especially in the female, a new determination arises in the system.

DCCXXX.

The determination of a greater quantity of blood to the vessels of the head, might be supposed to occasion a rupture of vessels in other parts of the head, as well as in the nose; but such a rupture does not commonly happen; because, in the nose, for the purpose of sense, there is a considerable network of blood vessels expanded on the internal surface of the nostrils, and covered only with thin and weak teguments. From this circumstance it is, that, upon any increased impetus of the blood, in the vessels of the head, those of the nose are most easily broken; and the effusion from the nose being

ing made, it not only relieves the other extremities of the external carotid, to which those of the nose chiefly belong, but relieves also, in a great measure, the system of the internal carotid. For, from the internal carotid, certain branches are sent to the nose, are expanded on the internal surface of this, and probably inosculated with the extremities of the external carotid; so that whichever of the extremities are broken, the *vis derivationis* of Haller will take place; the effusion will relieve the whole sanguiferous system of the head; and the same effusion will also commonly prevent a hemorrhagy happening in any other part of the body.

DCCXXXI.

From these principles, it will appear why hemorrhagies of the nose, so frequent before the period of puberty, or of the *acmé*,
feldom

feldom happen after these periods ; and we must observe further, that, though they should happen, they would not afford any objection to our principles, as such hemorrhagies might be imputed to a peculiar laxity of the vessels of the nose, and perhaps to a habit acquired, with respect to these vessels, while the balance of the system might be otherwise duly adjusted.

DCCXXXII.

When the process of the growth of the body goes on regularly, and the balance of the system is properly adjusted to the gradual growth of the whole, as well as to the successive growth of the several parts, even a plethoric state does not produce any hemorrhagy, or at least any after that of the nose ; but if, while the plethoric state continues, any inequality shall also subsist in any of the parts of the system, congestions,
hemorrhagic

hemorrhagic or inflammatory, may be still readily formed.

DCCXXXIII.

In general, it may be observed, that, when the several parts of the system of the aorta have attained their full growth, and are duly balanced with one another, if then any considerable degree of plethora remain or arise, the nicety of the balance will be between the systems of the aorta and pulmonary artery, or between the vessels of the lungs, and those of all the rest of the body: And though the lesser capacity of the vessels of the lungs is commonly compensated by the greater velocity of the blood in them; yet, if this velocity be not always adjusted to the necessary compensation, it is probable that a plethoric state of the whole body will always be especially felt in the lungs; and, therefore, that a
hemorrhagy,

hemorrhagy, as the effect of a general plethora, might be frequently occasioned in the lungs, even though there were no fault in their conformation.

DCCXXXIV.

In some cases, perhaps, a hemorrhagy from the lungs, or a hemoptysis, does arise from the general plethoric state of the body; but a hemoptysis more frequently does, and may be expected to happen, from a faulty proportion between the capacity of the lungs and that of the rest of the body.

DCCXXXV.

When such a disproportion takes place, it will be evident, that a hemoptysis will especially happen about the time that the body is approaching to its acmé; that is, when the system of the aorta has arrived at its utmost extension and resistance, and when,
therefore,

therefore, the plethoric state of the whole must especially affect the lungs.

DCCXXXVI.

Accordingly, it has been constantly observed, that, in fact, the hemoptysis especially happens about the time of the body's arriving at its acmé ; but we must observe also, that the hemorrhagy may happen sooner or later, as the balance between the vessels of the lungs, and those of the system of the aorta, happen to be more or less exactly adjusted to one another ; and it may therefore often occur much later than the period mentioned, when that balance, though not quite even, is not, however, so ill adjusted, but that some other concurring causes are necessary to give it effect.

DCCXXXVII.

It was antiently observed by Hippocrates, and has been confirmed by modern observation, that the hemoptysis generally happens to men between the age of fifteen and that of five and thirty; that it may happen at any time between these two periods; but that it seldom happens before the former, or after the latter; and it is proper for us here to inquire into the reason of these two limitations.

DCCXXXVIII.

With respect to the first, the reason of it has been already explained in (DCCXXVIII. and DCCXXIX.)

With respect to the second limitation, we expect that the reason of it will be understood from the following considerations.

We

We have said already, that the extension and growth of the body requires the plethoric state of the arterial system; and nature has provided for this, partly by the constitution of the blood being such, that a great portion of it is unfit to pass into the exhalants and excretories; partly by giving a certain density and resistance to the several exhalants and excretories through which the fluids might pass out of the red arteries; and partly, but especially, by a resistance in the veins to the free passage of the blood into them from the arteries.

DCCXXXIX.

With respect to this last, and chief circumstance, it appears from the experiments of Sir Clifton Wintrigham, in his *Experimental Inquiry*, that the proportional density of the coats of the veins to that of the coats of the arteries is greater in young animals than

in old ; and, therefore, it may be presumed, that the resistance to the passage of the blood from the arteries into the veins is greater in young animals than in old ; and, while this resistance continues, the plethoric state of the arteries must be constantly continued and supported. But, as the density of the coats of the vessels, consisting chiefly of a cellular texture, is increased by pressure, so, in proportion as the coats of the arteries are more exposed to pressure by distention than those of the veins, the former, in the progress of the growth of the body, must increase much more in density than the latter ; and, therefore, the coats of the arteries, in respect of density and resistance, must come, in time, not only to be in balance with those of the veins, but to prevail over them ; and the experiments of the above mentioned ingenious author sufficiently shew that this truly happens. By these means, the proportional quantities of blood in the arteries and veins must change
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in the course of life. In younger animals, the quantity of blood in the arteries must be proportionally greater than in old ones; but, by the increasing density of the arteries, the quantity of blood in them must be continually diminishing, and that of the veins be proportionally increasing, and at length be in a proportionally greater quantity than that of the arteries. When this change happens in the proportional quantities of the blood in the arteries and veins, it is evident that the plethoric state of the arteries must be in a great measure taken off; and, therefore, that the arterial hemorrhagy is no longer likely to happen, and that, if a general plethoric state afterwards take place in the system, it must especially appear in the veins.

DCCXL.

The change we have mentioned to happen in the state of the arterial and venous systems,

systems, is properly supposed to take place in the human body about the age of thirty-five, when it is manifest that the vigour of the body, which depends so much on the fullness and tension of the arterial system, no longer increases; and therefore it is, that the same age is the period after which the arterial hemorrhagy, hemoptysis, hardly appears. It is true, there are instances of the hemoptysis happening at a later period, but it is for the reasons given, (DCCXXII.), which shew that a hemorrhagy may happen at any period of life, from accidental causes forming congestions, independent of the state of the balance of the system at that particular period of it.

DCXLI.

We have said, (DCCXXXIX.), that, after the age of thirty-five, if a general and preternatural plethoric state occurs, it must
especially

especially appear in the venous system; and I must now observe, that this venous plethora may also give occasion to hemorrhagy.

DCCXLII.

If a plethoric state of the venous system takes place, it is presumed, that it will especially, and, in the first place, affect the system of the vena portarum, in which the motion of the venous blood is more slow than elsewhere; in which the motion of the blood is little assisted by external compression; and in which, from the want of valves in the veins which form the vena portarum, the motion of the blood is little assisted by the compression that is applied; while, from the same want of valves in those veins, the blood is more ready to regurgitate in them. Whether any regurgitation of the blood can produce any action in the veins, and which inverted,

verted, or directed towards their extremities, can force these, and occasion hemorrhagy, may perhaps be disputed ; but we think that a hemorrhagy produced by a plethoric state of the veins may be explained in another and more probable manner. If the blood is accumulated in the veins, from any interruption of its proper course, that accumulation must resist the free passage of the blood from the arteries into the veins. This again must produce some congestion in the extremities of the red arteries, and, therefore, some increased action in them, which must be determined with more than usual force, both upon the extremities of the arteries, and upon the exhalants proceeding from them ; and this force may occasion an effusion of blood, either by anastomosis, or rupture.

DCCXLIII.

This is the account we would give of the hemorrhoidal flux, so far as it depends upon the state of the whole system. This flux appears most commonly to be from the extremities of the hemorrhoidal vessels, which are the most dependent and distant branches of those veins which form the vena portarum ; and, therefore, the most readily affected by every accumulation of blood in that system of veins, and, consequently, by any general plethora in the venous system.

DCCXLIV.

It is here to be observed, that we have spoken of this hemorrhagy as proceeding from the hemorrhoidal vessel only, as indeed it most commonly does ; but it will be readily understood, that the same accumulation and re-

fiſtance to the venous blood may, from various cauſes, affect many of the extremities of the vena portarum, which lie very ſuperficially upon the internal ſurface of the alimentary canal, and give occaſion to what has been called the *Morbus Niger* or *Melaena*.

DCCXLV.

Another part in which an unuſually plethoric ſtate of the veins may have particular effects, and occaſion hemorrhagy, is the head. In this the venous ſyſtem is of a peculiar conformation, and ſuch as ſeems intended by nature to give a ſlower motion to the venous blood there. If, therefore, the plethoric ſtate of the venous ſyſtem in general, which ſeems to increaſe as life advances, ſhould at length increaſe to a great degree, it may very readily affect the venous veſſels of the head, and give there ſuch a reſiſtance to the arterial blood, as to determine this to
be

be poured out from the nose, or into the cavity of the cranium. The special effect of the latter effusion is to produce the disease named Apoplexy, and which, therefore, is properly named, by Doctor HOFFMAN, Hemorrhagia Cerebri ; and the explanation of its cause, which we have now given, explains well why it happens, especially to men of large heads and short necks, and to men in the decline of life, when the powers promoting the motion of the blood are much weakened.

DCCXLVI.

We have thus attempted to give the history of the plethoric and hemorrhagic states of the human body, as they occur at the different periods of life, and hope we have thereby explained not only the nature of hemorrhagy in general, but also of the particular hemorrhagies which most commonly appear,

appear, and as they occur successively at the different periods of life.

S E C T. . III.

OF THE REMOTE CAUSES OF HEMOR-
RHAGY.

DCCXLVII.

In the explanation given, we have especially considered the predisposition to hemorrhagy ; but it is proper also, and even necessary, to take notice of the occasional causes, which not only concur with the predisponent, in exciting hemorrhagy, but may also sometimes be the sole causes of it.

DCCLXVIII.

DCCXLVIII.

These occasional causes are,

1. External heat, which, by rarefying the blood, gives or increases the plethoric state of the body; and the same heat, as giving a stimulus to the whole system, must urge any particular determinations before established, still further, or may urge any inequality, otherwise innocent, to excess; and, in either way, external heat may immediately excite hemorrhagies, to which there was a predisposition, or form congestions where there were none before, and thereby occasion hemorrhagy.

2. A considerable and sudden diminution of the weight of the atmosphere, which seems to produce the same effects with those of heat, by producing also an expansion of the blood.

3. Whatever increases the force of the circulation, and thereby the velocity of the
blood,

blood, which may operate in the same manner as heat, in urging not only previous determinations with violence, but also in urging inequalities, otherwise innocent, to excess. All violent exercise, therefore, and especially all violent efforts, which, not only by a larger and longer inspiration, but also by the simultaneous action of many muscles interrupting the free motion of the blood, impell it with unusual force into the extreme vessels more generally, and, according to the different postures of the body, and mode of the effort, into certain vessels more particularly.

Among the causes increasing the force of the circulation, anger, and other violent active passions, are to be reckoned.

4. The violent exercise of particular parts of the body. If these are already affected with congestions, or liable to them, such exercise may be considered as a stimulus applied to the vessels of that particular part.

part. Thus, any violent exercise of respiration may excite hemoptysis, or occasion its return.

5. The postures of the body increasing determinations, or ligatures occasioning accumulations of the blood in particular parts of the body.

6. A determination into certain vessels rendered habitual by the frequent repetition of hemorrhagy from them.

7. Cold, externally applied, as changing the distribution of the blood, and determining it in greater quantity into the internal parts.

S E C T.

S E C T. IV.

OF THE CURE OF HEMORRHAGY.

DCCXLIX.

Having thus considered the proximate and remote causes of hemorrhagy in general, our next business is to consider the cure in the same manner.

In entering upon this subject, the first question which presents itself, is, Whether the cure of hemorrhagies ought to be attempted by art, or if they should be left to the conduct of nature?

DCCL.

The latter opinion was the favourite doctrine of the celebrated Dr STAHL, and his followers.

lowers. They maintained that the human body is much disposed to a plethoric state ; and, in consequence, to many disorders which nature endeavours to obviate and relieve, by exciting hemorrhagy ; that this, therefore, is often necessary to the balance and health of the system ; that it is accordingly to be generally encouraged, and sometimes solicited, and is not to be suppressed, unless when it goes to great excess, or happens in parts in which it may be dangerous.

DCCLI.

Much of this doctrine may be admitted. The human body, on many occasions, becomes preternaturally plethoric, and the dangerous consequences of this state, which might be apprehended, seem to be obviated by a hemorrhagy taking place ; and, further, the necessity of hemorrhagy often ap-

pears from hence, that the suppression of it seems to occasion many disorders.

All this seems to be just ; but there is a fallacy in the conclusion drawn from it.

DCCLII.

We maintain, that hemorrhagy, either on its first attack, or on its after recurrence, is never necessary to the health of the body, but upon the supposition that we cannot otherwise prevent or remove the plethoric state which seems to require the evacuation ; and, as we judge it possible to prevent or remove a plethoric state, so we do not think that hemorrhagy is, in all cases, necessary. In general, we think that hemorrhagy is to be avoided,

1. Because it does not always happen in parts where it is safe. 2. Because, often while it does relieve a plethoric state, it may,
at

at the same time, induce a very dangerous disease.

3. Because it may often go to excess, and either endanger life, or induce a dangerous infirmity.

And, *lastly*, Because it has a tendency to increase the plethoric state it was meant to relieve, to occasion its own recurrence, and thereby to induce a habit, which, if left to the precarious and unequal operation of nature, may, from the frequent errors of this, be attended with much danger.

DCCLIII.

It is further to be considered, that hemorrhagies do not always arise from the necessities of the system, but often proceed from incidental causes. We judge that all hemorrhagies of the latter kind may be immediately suppressed, and the repetition of them, as it induces a plethora, and

a habit not otherwise necessary, may be prevented with great advantage.

DCCLIV.

Upon the whole of this subject, I conclude, that every preternatural hemorrhagy, which is every one but that of the menses in females, is to be avoided, and especially the returns of it prevented; and I therefore now proceed to say how hemorrhagy, and its recurrences, may, and should be prevented.

DCCLV

From the principles delivered above, it will immediately appear, that the prevention, either of the first attacks, or of the returns of hemorrhagy, will chiefly, and in the first place, depend upon the preventing or removing of any considerable degree of a
plethoric

plethoric state which may happen to prevail in the body. It is true, that, where the hemorrhagy depends upon the particular conformation of certain parts, rather than upon the general plethoric state of the whole, the measures for removing or preventing the latter may not always be sufficient for preventing hemorrhagy; but, at the same time, it will be evident, that determinations, in consequence of the conformation of particular parts, will always be urged more or less, in proportion to the greater or lesser plethoric state of the whole system; and, therefore, that, even in the cases depending upon particular conformation, the preventing or removing of an unusually plethoric state, will always be a chief means of preventing hemorrhagy. It is further to be taken notice of, that there may be several inequalities in the balance of the system, which may have little or no effect, unless when the system becomes preternaturally plethoric; and, therefore, that, in all cases, the

the preventing or removing of the plethoric state of the system will be a chief means of preventing the first attacks, or the returns of hemorrhagy. We are now, therefore, to say how the plethoric state of the system is to be prevented or removed.

DCCLVI.

The fluids of the human body are in continual waste by the excretions, but are commonly replaced by the aliments taken in; and, if the quantity of aliments, in any measure, exceed that of the excretions, an increase of the quantity of the fluids of the body, or a plethoric state, must arise. This, to a certain degree, is necessary for the growth of the body; but, even then, if the proportion of the aliments to the excretions be greater than is suited to the growth of the body, and more certainly, if, after the growth is completed, when an equality between the *in-*
gesta

gesta and the *excreta* should be established, if the disproportion still continues, a preternaturally plethoric state must arise. In both cases, it is evident, that the plethora must be prevented or corrected by adjusting the *ingesta* and *excreta* to each other, which generally may be done, either by diminishing the *ingesta*, or increasing the *excreta*. The former may be effected by the management of diet, the latter by the management of exercise.

DCCLVII.

The *ingesta* may be diminished, either by giving aliment in less quantity than usual, or by giving aliments of a less nutritious quality ; that is, aliments of a substance, which, under the same bulk and weight, contain less of a matter capable of being converted into animal fluids, and more of a matter ready to pass off by the excretions, and, consequently,

frequently, lefs of a matter to be retained and accumulated in the veffels.

The choice of aliments fuited to thefe purpofes, muft be left to be directed by the doctrines of the *Materia Medica*.

DCCLVIII.

The increafing of the excreta, and thereby diminifhing the plethoric ftate of the fyftem, is to be obtained by increafing the exercife of the body; and generally for adjusting the balance between the ingefta and excreta, and thereby obviating the plethoric ftate, it is neceffary that exercife, in a due meafure, be very constantly employed.

DCCLIX.

The obferving of abftinence, and the employment of exercife, for obviating or removing

moving the plethoric state of the body, we formerly considered pretty fully, when treating of the gout, (DXVII. DXXVI.); so that less is necessary to be said here; and, it is only now requisite to observe, that the same doubts, as in cases of the gout, do not arise here, with regard to the safety of those measures, which, in a plethoric state of the body disposing to hemorrhagy, are always admissible and proper. But here it is to be observed, that some choice of the mode of exercise is necessary, and that it should be different, according to the particular determinations which may happen to prevail in the system. In general, in the case of plethora disposing to hemorrhagy, bodily exercise will always be hazardous, and gestation more generally safe.

DCCLX.

Artificial evacuations may be employed to diminish the plethoric state of the body;

and when, at any time, the plethoric state has become considerable, and immediately threatens a disease, these evacuations should be made to the quantity that the symptoms seem to require. But it is constantly to be attended to, that blood-lettings are improperly employed, to prevent a plethora, as they have a tendency to increase it; so that they require to be often repeated, and thereby induce a habit which may be attended with much danger.

DCCLXI.

While a plethora is avoided or removed, and thereby the predisposition to hemorrhagy, the other measures necessary for preventing this, are those for avoiding the occasional causes. These are enumerated in (DCCXLVIII.), and the means of avoiding them, so far as within our power, are sufficiently obvious.

DCCLXII.

DCCLXII.

We have now mentioned the means of preventing either the first attacks, or the returns of hemorrhagy ; and must next say how it is to be managed when it has actually come on.

DCCLXIII.

When a hemorrhagy has come on, which appears to have arisen from a preternaturally plethoric state, or from some change in the balance of the sanguiferous system, no measures are to be immediately taken for suppressing it, as we may expect that, when the quantity of blood necessary for the relief of the system is poured out, the effusion will spontaneously cease.

DCCLXIV.

DCCLXVI.

In many cases, however, it may be suspected, that the quantity of blood poured out is not exactly in proportion to the necessities of the system, either for relieving a general plethora, or particular congestion, but that it is often to a greater quantity than these require. This we suppose to happen in consequence of an inflammatory diathesis prevailing, and of a febrile spasm being formed; and, therefore, in many cases, it is proper, as well as for the most part safe, to moderate the evacuation, and, when it threatens to go to excess, to suppress it altogether.

DCCLXV.

A hemorrhagy may be moderated by avoiding any irritation that might concur to increase it; and, therefore, every part of the
antiphlogistic

antiphlogistic regimen is to be observed ; and, in particular, external heat, both as it rarifies the fluids, and stimulates the solids, is to be carefully avoided ; and, it is probable, that, in all cases, a hemorrhagy may be safely moderated by cool air applied, and cold drink exhibited.

DCCLXVI.

A second means for the same purpose, is the use of refrigerant medicines, and particularly of acids and nitre.

DCCLXVII.

A third means which has been frequently employed, is that of blood-letting. The propriety of this practice may be doubtful, as the quantity of blood poured out by the hemorrhagy, may be supposed to answer the purpose of an evacuation in any other way ; and we are ready to allow, that the
practice

practice has been often superfluous, and sometimes hurtful, by making a greater evacuation than was necessary or safe. At the same time, we apprehend it is not for the mere purpose of evacuating, that blood-letting is to be practised in the cure of hemorrhagy; but that it is necessary for taking off the inflammatory diathesis which prevails, and the febrile spasm that has been formed. In the case of hemorrhagy, therefore, when the pulse is not only frequent, but quick and full, and does not become softer or slower upon the flowing of the blood, and that the effusion is profuse, and threatens to continue so, I think that blood-letting may be necessary, and I have often found it useful. I believe further, that the particular circumstances of venesection may render it more powerful for taking off the tension and inflammatory irritation of the system, than any gradual flow from an artery.

DCCLXVIII.

That a spasm of the extreme vessels has a share in supporting hemorrhagy, appears to me probable from hence, that blistering has been often found useful in moderating and suppressing hemorrhagy.

DCCLXIX.

Do emetics and vomiting contribute to the cure of hemorrhagy? See Doctor BRYAN ROBINSON on the virtues and power of medicines.

DCCLXX.

When a hemorrhagy is very profuse, and seems to endanger life, or even threatens to induce a dangerous infirmity, it is agreed on all hands, that it is to be immediately
suppressed

suppressed by every means in our power ; and particularly, that, besides the means above mentioned for moderating hemorrhagy, astringents, internal or external, where they can be applied, are to be employed for suppressing it.

DCCLXXI.

The internal astringents are either vegetable or fossil.

The vegetable astringents are seldom very powerful in the cure of any hemorrhagies, except those of the alimentary canal.

The fossil astringents are more powerful ; but some choice of the different kinds may be proper.

The chalybeates, so frequently employed, do not appear to me to be very powerful.

The preparations of lead are certainly more so, but are otherwise of so pernicious a quality, that they should not be employed but in cases of the utmost danger. The
Tinctura

Tinctura Saturnina, or Antiphthifica, as it has been called, appears to be of little power ; but whether from the small portion of lead which it contains, or from the state in which the lead is in it, I am uncertain.

The fossil astringent that appears to me the most powerful, and at the same time the most safe, is alum.

DCCLXXII.

External astringents, when they can be applied, are more effectual than the internal. The choice of these is left to the surgeons.

DCCLXXIII.

The most powerful of all astringents appears to me to be cold, which may be employed either by applying cold water to the surface of the body, or by throwing the same into the internal parts.

DCCLXXIV.

For suppressing hemorrhagies, many superstitious remedies and charms have been recommended, and said to have been employed with success. We are of opinion, that the seeming success of these has been generally owing to the by-standers mistaking a spontaneous ceasing of the hemorrhagy for the effect of the remedy. But, at the same time, I believe, that those remedies have been sometimes useful, by impressing the mind with horror, awe, or dread.

DCCLXXV.

Upon occasion of profuse hemorrhagies, opiates have been employed with advantage; and, when the fulness and inflammatory diathesis of the system have been previously taken off by the hemorrhagy itself, or by
blood-

blood-letting, I think opiates may be employed with safety.

DCCLXXVI.

For restraining hemorrhagy, ligatures have been applied upon the limbs, for retarding the return of the venous blood from the extremities ; but they appear to me to be of uncertain and ambiguous use.

DCCLXXVII.

In the case of profuse hemorrhagies, no pains are to be taken to prevent a Deliquium Animi, or fainting, as this happening is often the most certain means of stopping the hemorrhagy.

DCCLXXVIII.

We have thus delivered the general doctrine of hemorrhagy, and are now to consider

der the particular cases of it. It may appear, that we have marked fewer of these than are commonly enumerated by the nosologists ; but our reason for differing from these authors, must be left to a nosological discussion, to be entered into in another place more properly than here.

C H A P.

C H A P. II.

O F T H E E P I S T A X I S,

O R H E M O R R H A G Y O F T H E N O S E.

DCCLXXIX.

The state of the vessels upon the internal surface of the nose being such as mentioned (DCCXXX.), renders a hemorrhagy from that more frequent than from any other part of the body.

DCCLXXX.

The blood commonly flows from one nostril only, and probably because a hemorrhagy

gy from one vessel relieves the congestion in all the neighbouring vessels. The blood flowing from both nostrils at the same time shews a more considerable disease.

DCCLXXXI.

This hemorrhagy may occur at any time of life, but most commonly happens to young persons, as mentioned in (DCCXXIX.), owing to the state of the balance of the system peculiar to that age.

DCCLXXXII.

Though it generally happens to persons before they have arrived at their full growth, and more rarely afterwards ; yet sometimes it happens to persons after their acmé, and during the state of manhood ; and it must then be imputed to a plethoric state of the system ; to a determination of the blood by
habit

habit to the vessels of the nose ; or to the particular weakness of these.

DCCLXXXIII.

In all these cases, the disease may be considered as an hemorrhagy purely arterial, and depending upon an arterial plethora ; but the disease sometimes occurs in the decline of life, when probably it depends upon, and may be considered as a mark of a venous plethora of the vessels of the head. See (DCCXLV.)

DCCLXXXIV.

This hemorrhagy happens at any period of life, in certain febrile diseases, which are altogether, or partly, of an inflammatory nature, and which shew a particular determination of the blood to the vessels of the head. These diseases often admit of a solution

lution by this hemorrhagy, when it may be called *critical*.

DCCLXXXV.

This hemorrhagy happens to persons of every constitution and temperament, but most frequently to those of a plethoric habit, and sanguine temperament. It happens to both sexes, but most frequently to the male.

DCCLXXXVI.

The disease sometimes comes on without any previous symptoms ; particularly, when some external violence has a share in bringing it on. But, when it proceeds entirely from an internal cause, it is commonly preceded by headaches, redness of the eyes, a florid colour of the face, an unusual pulsation in the temples, a sense of fullness about the nose, and an itching of the nostrils. A bound belly,

belly, pale urine, coldness of the feet, and cold shivering over the whole body, are also sometimes among the preceding symptoms.

DCCLXXXVII.

From the weakness of the vessels of the nose, the blood often flows from them without any considerable effort of the whole system; and, therefore, without any observable febrile disorder; which, however, in many cases, is, in all its circumstances, very discernible.

DCCLXXXVIII.

A hemorrhagy of the nose happening to young persons, is, and may generally be, considered as a slight disease, of little consequence, and hardly requiring any remedy. But, even in young persons, when it recurs very frequently, and is very copious, it will

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require particular attention. It is to be considered as a mark of arterial plethora ; as it may go to a dangerous excess ; and, as frequently returning, it increases the plethoric state ; which, in a more advanced stage of life, may give the blood a determination to parts, from which the hemorrhagy would be more dangerous. All this will more particularly require attention, as the marks of plethora, and of particular congestion, preceding the hemorrhagy, are more considerable ; and as the flowing of the blood is attended with a more considerable degree of febrile disorder.

DCCLXXXIX.

When the epistaxis happens to persons after their acmé, returning frequently, and flowing copiously, it is always to be considered as a dangerous disease, and as more
certainly

certainly threatening the consequences mentioned in the last paragraph.

DCCXC.

When this hemorrhagy happens in the decline of life, it may be considered as in itself very salutary, but, at the same time, as a mark of a very dangerous state of the system; that is, as a mark of a very strong tendency to a venous plethora in the vessels of the head; and I have accordingly observed it often followed by apoplexy, palsy, or such like diseases.

DCCXCI.

When a hemorrhagy from the nose happens in febrile diseases, as mentioned in (DCCLXXXIV.), and is in pretty large quantity, it may be considered as critical
and

and salutary ; but it is very apt to be profuse, and even in this way dangerous.

It sometimes occurs during the eruptive fever of several exanthemata, and is in such cases sometimes salutary ; but, if these exanthemata be accompanied with any putrid tendency, this hemorrhagy, like artificial blood-lettings, may have very bad effects.

DCCXCII.

Having thus explained the several circumstances of epistaxis, I proceed to consider the management and cure of it. I say the management, because it has been usually thought to require no cure, but that nature should be allowed to throw out blood in this way very frequently, and as often as it appears to arise from internal causes, that is, from a state of the system supposed to require such evacuation.

DCCXCIII.

DCCXCIII.

For the reasons given in (DCCLXXXVIII.), I am of opinion, that this disease is very seldom to be left to the conduct of nature; and that, in all cases, it should be moderated by keeping the patient in cool air; by giving cold drink; by keeping the body and head erect; by avoiding any blowing of the nose, speaking, or other irritation; and, when the blood has flowed for some time, and does not shew any tendency to cease, a profuse bleeding is to be prevented by measures employed to stop it, such as pressing the nostril from which the blood flows, washing the face with cold water, or applying this to some other part of the body.

DCCXCIV.

These measures we judge to be proper, even in the case of young persons, in whom the disease is least hazardous, and even in
first

first attacks ; but these measures will be still more proper, if the disease frequently recurs, without any external violence ; if the returns shall happen to persons of a habit disposed to be plethoric ; and, more particularly, if the marks of a plethoric state appear in the preceding symptoms. (DCCLXXXVI.)

DCCXCV.

Even in young persons, if the bleeding be very profuse, and long continued, and more especially, if the pulse become weak, and the face pale, we judge it proper to suppress the hemorrhagy by every means in our power. See (DCCLXIX.), and following paragraphs.

DCCXCVI.

In the same case of young persons, when the returns of this hemorrhagy become frequent, and especially with the marks of a
plethoric

plethoric habit, we think it necessary to advise such a regimen as may prevent a plethoric state, (DCCLV.—DCCLIX.). We would advise, at the same time, to avoid all circumstances which may determine the blood more fully to the vessels of the head, or prevent its free return from them ; and, by keeping an open belly, to make some derivation from them.

DCCXCVII.

In adult persons, liable to frequent returns of the epistaxis, the whole of the measures proposed (DCCXCII.—DCCXCVI.), are more certainly and freely to be employed. When, with the circumstances mentioned in (DCCXCIV.), the tendency to a profuse hemorrhagy appears, even in young persons, a bleeding at the arm may be proper ; but will be still more allowable, proper, and even necessary, in the case of adults here mentioned.

DCCXCVIII.

DCCXCVIII.

In persons of any age liable to frequent returns of this hemorrhagy, when the measures proposed in (DCCXCVI.) shall have been neglected, or from peculiar circumstances in the balance of the system, shall have proved ineffectual, and the symptoms threatening a hemorrhagy (DCCLXXXVI.) shall appear, it will then be proper, by blood-letting, cooling purgatives, and every part of the antiphlogistic regimen, to prevent the hemorrhagy ; or, at least, to prevent its being profuse when it does happen.

DCCXCIX.

In the circumstances just now mentioned (DCCXCVIII.), the measures proposed are proper, and even necessary ; but it should, at the same time, be observed, that these are practised with much less advantage
than

tage than those proposed in (DCCXCVI.); because, though these proposed here may prevent the coming on of the hemorrhagy for the present, they certainly, however, dispose to the return of that plethoric state which required their being used, and there can be no proper security against returns of the disease, but by pursuing the means proposed in (DCCXCVI.)

DCCC.

When the hemorrhagy of the nose happens to persons approaching to their full growth, and its returns have been preceded by the symptoms (DCCLXXXVI.), it may be supposed, that, if the returns can be prevented by the measures proposed in (DCCXCVIII.), these will be safely employed, as the plethoric state induced will be rendered safe, by the change which is soon to take place in the balance of the system. This, however, cannot be admitted,

as the evacuations practised upon this plan will have all the consequences which we have said may follow the recurrence of the hemorrhagy itself.

DCCCI.

When the hemorrhagy of the nose shall be found to make its returns at nearly stated periods, the measures for preventing it, (DCCXCVIII.), may be practised with greater certainty; and, upon every repetition of blood-letting, by diminishing the quantity taken away, its tendency to induce a plethora may be in some measure avoided. When, indeed, the repetition of evacuations is truly unavoidable, the diminishing of them upon every repetition is properly practised; but it is a practice of nice and precarious management, and should by no means be trusted, so far as to supersede the measures proposed in (DCCXCVI.), wherever these can be admitted.

DCCCII.

DCCCII.

When the hemorrhagy of the nose happens in consequence of a venous plethora in the vessels of the head, as in (DCCLXXXI.), the flowing of the blood pretty largely may be allowed, especially when it happens after the suppression or ceasing of the menstrual or hemorrhoidal flux. But, though the flowing of the blood is, on its first occurring, to be allowed, there is nothing more proper than guarding against the returns of it. This is to be done not only by the measures proposed in (DCCXCVI.), but, as the effects of a plethoric state of the vessels of the head are very uncertain, so, upon any appearance of it, and especially upon any threatening of hemorrhagy, the plethora is to be removed, and the hemorrhagy to be obviated immediately by proper evacuations, as blood-letting, purging, and issues, or by restoring suppressed evacuations, where this can be done.

CHAP.

C H A P. III.

OF THE HEMOPTYSIS,
OR HEMORRHAGY FROM THE LUNGS.

S E C T. I.

OF THE PHÆNOMENA AND CAUSES OF
HEMOPTYSIS.

DCCCIII.

When blood thrown out from the mouth
appears after some affection of the breast,
and is brought out with more or less of
coughing,

coughing, we can have no doubt that it comes from the lungs, and this ascertains the disease we are now to treat of. But there are cases in which the source of the blood spit out is uncertain ; and, therefore, some other considerations, to be mentioned hereafter, are often necessary to ascertain the existence of a hemoptysis.

DCCCIV.

The blood-vessels of the lungs are more numerous than those of any other part of the body of the same bulk. These vessels of the largest size, as they arise from the heart, are more immediately, than in any other part, subdivided into vessels of the smallest size ; and these small vessels spread out near to the internal surfaces of the bronchial cavities, are situated in a loose cellular texture, and covered by a tender membrane only ; so that, considering how readily and frequently these vessels are gorged with blood, we
may

may understand why a hemorrhagy from these vessels is, next to that of the nose, the most frequent of any; and particularly, why any violent shock given to the whole body so readily occasions a hemoptysis.

DCCCV.

A hemoptysis may be occasioned by external violence at any period of life; and we have explained above (DCCXXXIV.), why in adult persons, while the arterial plethora still prevails in the system, that is, from the age of sixteen to that of five and thirty, a hemoptysis may at any time be produced, merely by a plethoric state of the lungs.

DCCCVI.

But, we have also observed above, (DCCXXXIV.), that a hemoptysis more
fre-

frequently arises from a faulty proportion in the capacity of the vessels of the lungs to those of the rest of the body. Thus it is often a hereditary disease, which implies a peculiar and faulty conformation. The disease also especially happens to persons who discover the smaller capacity of their lungs, by the narrowness of their chest, and by the prominency of their shoulders ; which last is a mark of their having been long liable to a difficult respiration.

DCCCVII.

In such cases too, the disease especially happens to persons of a sanguine temperament, in whom particularly the arterial plethora prevails. It happens also to persons of a slender delicate make, of which a long neck is a mark ; to persons of much sensibility, and irritability, and, therefore, of quick parts ; to persons who have been formerly liable to frequent hemorrhagies of the nose ;

to

to persons who have suffered a suppression of any hemorrhagy they had formerly been liable to, the most frequent instance of which is in females, who have suffered a suppression of their menstrual flux; and, *lastly*, to persons who have suffered the amputation of any considerable limb.

DCCCVIII.

In most of these cases, (DCCCVII.), the disease especially happens to persons about the time of their coming to their full growth, or soon after it, and this for the reasons fully set forth above (DCCLXXXV.)

DCCCIX.

From all that has been said from (DCCCIV. to DCCCVIII.), the predisponent cause of hemoptysis will be sufficiently understood, and the disease may hap-
pen

pen from merely the predisponent cause arising to a considerable degree. But, in the predisposed, it is often brought on by the concurrence of various occasional and exciting causes. One of these, and perhaps a frequent one, is external heat, which, even when in no great degree, brings on the disease in spring, and the beginning of summer, while the heat rarifies the blood more than it relaxes the solids, which had before been contracted by the cold of winter. Another exciting cause is a sudden diminution of the weight of the atmosphere, especially when concurring with any effort in bodily exercise. This effort, too, alone may often, in the predisposed, be the exciting cause; and, more particularly, any violent exercise of respiration. In the predisposed, any degree of external violence also may bring on the disease.

DCCCX.

Occasioned by one or other of these causes (DCCCIX.), the disease comes on with a sense of weight, and anxiety in the chest, some uneasiness in breathing, some pain of the breast, or other parts of the thorax, and some sense of heat under the sternum; and very often before the disease appears, a saltish taste is perceived in the mouth.

DCCCXI.

Immediately before the appearance of blood, a degree of irritation is felt at the top of the larynx. To relieve this, a hawking is made, which brings up a little blood, of a florid colour, and somewhat frothy. The irritation returns; and, in the same manner, more blood of a like kind is brought up, with some noise in the wind-pipe, as of air passing through a fluid.

DCCCXII.

DCCCXII.

This is commonly the manner in which the hemoptysis first begins ; but sometimes, at the very first, the blood comes up by coughing, or at least somewhat of coughing accompanies the hawking mentioned.

DCCCXIII.

The blood issuing is sometimes at first in very small quantity, and soon disappears altogether ; but, in other cases, especially when it repeatedly occurs, it is in greater quantity, and frequently continues to appear at times for several days together. It is sometimes profuse, but rarely in such quantity as either by its excess, or by its sudden suffocation, to prove immediately mortal. It commonly either ceases spontaneously, or is stopped by the remedies employed.

DCCCXIV.

DCCCXIV.

When blood is thrown out from the mouth, it is not always easy to determine from what internal part it proceeds ; whether from the internal surface of the mouth itself, from the fauces, or adjoining cavities of the nose, from the stomach, or from the lungs. It is, however, very necessary to distinguish the different cases ; and, in most instances, it may be done by attending to the following considerations.

DCCCXV.

When the blood spit out proceeds from some part of the internal surface of the mouth itself, it comes out without any hawking or coughing ; and generally, upon inspection, the particular source of it becomes evident.

DCCCXVI.

DCCCXVI.

When blood proceeds from the fauces, or adjoining cavities of the nose, it may be brought out by hawking, and sometimes by coughing, in the manner we have described in (DCCCXI. and DCCCXII.); and, in this way, a doubt may arise concerning its real source. A patient often lays hold of these circumstances, to please himself with the opinion of its coming from the fauces, and he may be allowed to do so; but a physician cannot readily be deceived, if he consider, that a bleeding from the fauces is more rare than one from the lungs; that the former seldom happens but in persons who have been before liable to a hemorrhagy of the nose, or to some evident cause of erosion; and, in most cases, by looking into the fauces, the distillation of the blood from thence will be perceived.

DCCCXVII.

DCCCXVII.

When blood proceeds from the lungs, the manner in which it is brought up will commonly shew from whence it comes; but, independent of that, there are many circumstances which may concur to point it out, such as the period of life, the habit of body, and other marks of a predisposition (DCCCIV. —DCCCVIII.) ; and, together with these, the occasional causes (DCCCIX.) having been immediately before applied.

DCCCXVIII.

When vomiting accompanies the throwing out of blood from the mouth, as vomiting and coughing often mutually excite each other; so they may be frequently joined, and render it doubtful, whether the blood thrown out, proceeds from the lungs, or from the stomach.

stomach. We may, however, generally decide, by considering that blood does not so frequently proceed from the stomach as from the lungs ; that blood proceeding from the stomach commonly appears in greater quantity than when it proceeds from the lungs ; that the blood proceeding from the lungs is usually of a florid colour, and mixed with a little frothy mucus only ; whereas, the blood from the stomach is commonly of a darker colour, more grumous, and mixed with the other contents of the stomach ; that the coughing or vomiting, as the one or the other first arises in the cases in which they are afterwards joined, may sometimes point out the source of the blood ; and, *lastly*, that much may be learned from the circumstances and symptoms which have preceded the hemorrhagy. Those which precede the hemoptysis, enumerated (DCCCX.), are most of them evident marks of an affection of the lungs. And, on the other hand, the hematemesis, or issuing of blood from the stomach,

mach, has also its peculiar symptoms and circumstances preceding it; as some morbid affection of this organ, and, at least, some pain, anxiety, and sense of weight, referred distinctly to the region of the stomach. To all this may be added, that the vomiting of blood happens more frequently to females than to males; and to the former, in consequence of a suppression of their menstrual flux. By attending to all these considerations (DCCCXV.—DCCCXVIII.), the presence of the hemoptysis may be commonly well ascertained.

S E C T.

S E C T. II.

OF THE CURE OF HEMOPTYSIS.

DCCCXIX.

This disease may sometimes be of no more danger than a hemorrhagy from the nose, as, when it happens to females, in consequence of a suppression of the menses; when, without any marks of a predisposition, it arises from external violence; or, from whatever cause arising, when it leaves no cough, dyspnoea, or other affection of the lungs, behind it. But, even in these cases, a danger may arise, from too large an wound being made in the vessels of the

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lungs;

lungs ; from a quantity of red blood being left to stagnate in the cavity of the bronchiae ; and particularly, from any determination of the blood being made into the vessels of the lungs, which, by renewing the hemorrhagy, may have these consequences. In every instance, therefore of hemoptysis, the effusion is to be moderated by the several means mentioned (DCCLXIV. DCCLXVIII).

DCCCXX.

These measures are especially necessary when the hemoptysis arises in consequence of predisposition, and in all cases where there is the appearance of a large effusion, or where the hemorrhagy frequently returns, the effusion is not only to be moderated, but to be entirely stopped, and the returns of it prevented by every means in our power. See DCCLXIX. DCCLXXV.

DCCCXXI.

DCCCXXI.

Two medicines have been frequently employed to stop a hemoptysis, or prevent the returns of it ; neither of which I can approve of. These are chalybeates, and the Peruvian bark. As both of these contribute to increase the phlogistic diathesis of the system, they can hardly be safe in any case of active hemorrhagy, and I have frequently found them hurtful.

DCCCXXII.

As the hemoptysis which happens in consequence of predisposition, is always attended with a phlogistic diathesis ; and, as the bad consequences of the disease are especially to be apprehended from the continuance of that diathesis, so this is to be industriously taken off by blood-letting, in greater or smaller quantity, and more or
less

less frequently repeated, according as the symptoms shall direct. At the same time, cooling purgatives are to be employed, and every part of the antiphlogistic regimen is to be strictly enjoined. The refrigerants may also be administered, taking care, however, that the acids, and more especially the nitre, do not excite coughing.

DCCCXXIII.

The avoiding of motion is generally a proper part of the antiphlogistic regimen; and, in the hemoptysis, nothing is more necessary than avoiding bodily exercise; but some kinds of gestation, as sailing, and travelling in an easy carriage on smooth roads, have often proved a remedy.

DCCCXXIV.

DCCCXXIV.

Such is the treatment we can propose for the hemoptysis, considered merely as a hemorrhagy ; but when, in spite of all our precautions, it continues to recur, it is often followed by an ulceration of the lungs, and a phthisis pulmonalis. This, therefore, we must consider here ; but, as it proceeds also from other causes besides the hemoptysis, we shall treat of it more generally.

C H A P.

C H A P. IV.

OF THE PHTHISIS PULMONALIS,

OR

CONSUMPTION OF THE LUNGS.

S E C T. I.

OF THE PHENOMENA AND CAUSES
OF THE PHTHISIS PULMONALIS.

DCCCXXV.

We define the phthisis pulmonalis to be an expectoration of pus or purulent matter from the lungs, attended with a hectic fever.

As

As this is the principal species of phthisis, we shall frequently, in this chapter, employ the general term of phthisis, though we strictly mean the phthisis pulmonalis.

DCCCXXVI.

We have met with some instances of an expectoration of purulent matter, continuing for many years, accompanied with very few symptoms of hectic, and, at least, without any hectic exquisitely formed; but, in none of these instances were the persons so entirely free from symptoms of hectic, as to form any exception to our general definition.

DCCCXXVII.

In every instance of a phthisis pulmonalis, we suppose there is an ulceration of the lungs. The late Mr de Haen is the
only

only author that I know of who has advanced another opinion, and has supposed that pus may be formed in the blood-vessels, and be from thence poured into the bronchae. Admitting his fact, I have attempted an explanation of the appearance of pus without ulceration in (CCCLII.) But, after all, I cannot help suspecting the accuracy of his observations, must entirely reject his explanation of it, must allow that we still want facts to support the explanation I have offered, and doubt much if it will apply to any case of phthisis. Therefore I still conclude, agreeably to the faith of all other dissections, and the opinions of all physicians, that the symptoms mentioned in our definition depend always upon an ulceration formed in the lungs.

DCCCXXVIII.

DCCCXXVIII.

It sometimes happens that a catarrh is attended with an expectoration of a matter so much resembling pus, that physicians have been often uncertain whether it was mucus or pus, and, therefore, whether the disease was a catarrh or a phthisis. It is often of consequence to determine these questions; and we are of opinion that it may be generally done, with sufficient certainty, from the following considerations, of which each particular is not always singly decisive, but, when they are taken together, can hardly deceive us.

1. From the colour of the matter, as mucus is naturally transparent, and pus always opake. When mucus becomes opake, as it sometimes does, it becomes white, yellow, or greenish, but the latter colour is hardly ever so considerable in mucus as in pus.

2. From the consistence, as mucus is more viscid, and coherent, and pus is less so, and

may be said to be more friable. When mucus is thrown into water, it is not readily diffused, but remains united in uniform and circular masses ; but pus, in the same circumstances, though not readily diffused, does not remain so uniformly united, and, by a little agitation, it is broken into ragged fragments.

3. From the odour, which is seldom perceived in mucus, but frequently in pus. It has been proposed to try the odour of the matter expectorated by throwing it upon live coals ; but, in such a trial, both mucus and pus give out a disagreeable smell, and it is not easy to distinguish between the two.

4. From the specific gravity compared with water ; and it is usual for the mucus of the lungs to swim on the surface of water, and for pus to sink in it. But, in this, we may sometimes be deceived ; as pus, which has entangled a great deal of air, may swim, and mucus, that is free from air, may sink.

5. From

5. From the mixture which is discernible in the matter brought up; for, if a yellow or greenish matter appears surrounded with a quantity of transparent, or less opaque and coloured matter, the more strongly coloured matter may be generally considered as pus; as it is not easy to understand how one portion of the mucus of the lungs can be very considerably changed, while the rest of it is very little so, or remains in its ordinary state.

6. From the admixture of certain substances with the matter thrown out from the lungs. To this purpose, we are informed by the experiments of the late Mr Charles Darwin: a. That the vitriolic acid dissolves both mucus and pus, but most readily the former: That, if water is added to such a solution of mucus, this is separated, and either swims on the surface, or, divided into flocculi, is suspended in the liquor; whereas, when water is added to a like solution of pus, this falls to the bottom, or,
by

by agitation, is diffused so as to exhibit an uniformly turbid liquor. b. That a solution of the caustic fixed alkali, after some time, dissolves mucus, and generally pus; and, if water be added to such solutions, the pus is precipitated, but the mucus is not. From such experiments, it is supposed that pus and mucus may be certainly distinguished from each other.

7. From the expectoration's being attended with a hectic fever. A catarrh, or expectoration of mucus, is often attended with fever, but never, so far as I have observed, with such a fever as we are presently to describe as a hectic. This, I am of opinion, is the most certain mark of a purulent state in some part of the body; and, if other persons have thought differently, I am persuaded that it has been owing to this, that, presuming upon the mortal nature of a confirmed or purulent phthisis, they have considered every case in which a recovery happened, as a catarrh

tarrh only ; but, that they may have been mistaken in this, we shall show hereafter.

DCCCXXIX.

Having thus considered the first part of the character of the phthisis pulmonalis as a mark of an ulceration of the lungs ; and having just now said, that the other part of the character, that is, the hectic fever, is a mark of the same, it is proper now to consider this here, as I had omitted it before (LXXVI.)

DCCCXXX.

A hectic fever has the form of a remittent, which has exacerbations twice every day. The first of these occurs about noon, sometimes a little sooner or later ; and a slight remission of it happens about five afternoon. This is soon succeeded by another exacerbation, gradually increasing, till after midnight ;

midnight ; but, after two o'clock of the morning, a remission takes place, which becomes more and more considerable as the morning advances. The exacerbations are frequently attended with some degree of cold shivering, or at least, the patient is exceedingly sensible to any coolness of the air, seeks external heat, and often complains of a sense of cold, when to the thermometer, his skin is preternaturally warm. Of these exacerbations, that of the evening is always the most considerable.

DCCCXXXI.

It has commonly been given as a part of the character of a hectic fever, that an exacerbation of it commonly appears after the taking in of food ; and it is true that dinner, which is taken at noon, or after it, does seem to occasion some exacerbation. But this must not make us judge the mid-day
exacerbation

exacerbation to be the effect of eating only ; for I have often observed it to come on an hour before noon, and often some hours before dinner, which, in this country at present, is not taken till some time after noon. It is indeed, to be observed, that, in almost every person, the taking in of food occasions some degree of fever ; but I am persuaded this would not appear so considerable in a hectic, were it not that an exacerbation of fever is present from another cause, and accordingly the taking in of food in the morning has hardly any sensible effect.

DCCCXXXII.

We have thus described the general form of hectic fever ; but many circumstances attending it are further to be taken notice of.

The fever we have described does not commonly subsist long, till the evening exacerbations become attended with sweatings, which

which continue to recur, and to prove more and more profuse, through the whole course of the disease.

Almost from the first appearance of the hectic the urine is high coloured, and deposits a copious branny red sediment, which hardly ever falls close to the bottom of the vessel.

In the hectic, the appetite for food is generally less impaired than in any other kind of fever.

The thirst is seldom considerable; the mouth is commonly moist; and, as the disease advances, the tongue becomes free from all fur, appears very clean, and, in the advanced stages of the disease, the tongue and fauces appear to be somewhat inflamed, and become more or less covered with aphthae.

As the disease advances, the red vessels of the adnata of the eye disappear, and the whole of the adnata becomes of a pearly white.

The

The face is commonly pale ; but, during the exacerbations, a florid red, and an almost circumscribed spot, appear on the cheeks.

For some time, in the course of a hectic, the belly is bound ; but, in the advanced stages of it, a diarrhoea almost always comes on, and continues to recur frequently during the rest of the disease, alternating in some measure with the sweatings mentioned above.

The disease is always attended with a debility, which gradually increases during the the course of it.

During the same course, an emaciation takes place, and goes to a greater degree than in almost any other case.

The falling off of the hairs, and the adunque form of the nails, are also symptoms of the want of nourishment.

Towards the end of the disease, the feet are often affected with oedematous swellings.

The exacerbations of the fever are seldom attended with any headach, and scarcely ever with delirium.

The senses and judgment commonly remain entire to the very end of the disease ; and the mind, for the most part, is confident, and full of hope.

Some days before death, a delirium comes on, and commonly continues to the end.

DCCCXXXIII.

The hectic fever we have now described, (DCCCXXXI. DCCCXXXII.) as accompanying a purulent state of the lungs, is perhaps the case in which it most frequently appears ; but I have never seen it in any case, when there was not evidently, or when I had not ground to suppose, there was a permanent purulency or ulceration in some external or internal part. It was for this reason that, in (LXXVI.) I concluded it to be a symptomatic fever only. It appears to me to be always the effect of an acrimony absorbed from abscesses or ulcers ; but it is not equally the effect of every sort of acrimony ;

mony ; for the scorbutic and cancerous often subsist long in the body without producing a hectic. What is the precise state of the acrimony producing this, I cannot determine, but it seems to be chiefly that of a vitiated purulency.

DCCCXXXIV.

However this may be, it appears, that the hectic's depending in general upon an acrimony, explains its peculiar circumstances. The febrile state seems to be chiefly an exacerbation of that frequency of the pulse, which occurs twice every day to persons in health, and may be produced by acrimony alone. These exacerbations, indeed, do not happen without the proper circumstances of pyrexia; but the spasm of the extreme vessels in a hectic does not seem to be so considerable as in other fevers; and hence the state of sweat and urine which appear so early and so constantly in hektics. Upon
the

the same supposition, of an acrimony corrupting the fluids, and debilitating the moving powers, we think that most of the other symptoms may also be explained.

DCCCXXXV.

Having thus considered the characteristic symptoms, and chief part of the proximate cause of the phthisis pulmonalis, we proceed to observe, that an ulcer of the lungs, and its concomitant circumstances, of hectic fever, may arise from different previous affections of the lungs; all of which, however, as we judge, may be referred to five heads, that is, 1. To a hemoptysis, 2. To a suppuration of the lungs, in consequence of pneumonia, 3. To catarrh, 4. To asthma, or, 5. To a tubercle. These several affections, as causes of ulcers, we shall now consider in the order mentioned.

DCCCXXXVI.

DCCXXXVI.

It has been commonly supposed, that a hemoptysis was naturally, and almost necessarily, followed by an ulcer of the lungs ; but we presume to say, that, in general, this is a mistake ; for we have seen many instances of a hemoptysis occasioned by external violence, without being followed by any ulcer of the lungs ; and we have also seen many instances of hemoptysis from an internal cause, without any consequent ulceration. And this, not only when the hemoptysis happened to young persons, and recurred for several times, but when it has often recurred during the course of a long life ; and it is easy to conceive that a rupture of the vessels of the lungs, like that of the vessels of the nose, may be often healed, as the surgeons speak, by the first intention. It is probable, therefore, that it is a hemoptysis in particular

lar circumstances only, which is necessarily followed by an ulcer; but what these circumstances are it is difficult to determine. It is possible, that merely the degree of rupture, or frequently repeated rupture, preventing the wound to heal by the first intention, may occasion an ulcer; or it is possible that red blood effused, and not brought up entirely by coughing, may, by stagnating in the bronchia, become acrid, and erode the parts. These, however, are but suppositions, not supported by any clear evidence. And, if we consider that those cases of hemoptysis which follow the predisposition (DCCCVI.—DCCCVIII.) are these especially which end in a phthisis, we shall be led to suspect that some other circumstances concur here to determine the consequences of hemoptysis, as we shall hereafter endeavour to shew.

DCCCXXXVII.

Any supposition, however, we can make, with respect to the innocence of a hemoptysis, must not supersede the measures proposed above for the cure of it ; both because we cannot certainly foresee what may be the consequences of such an accident, and because the measures proposed are safe, as, upon every supposition, it is a diathesis phlogistica, which may urge on every bad consequence that is to be apprehended.

DCCCXXXVIII.

The second cause of an ulceration of the lungs to be considered, is a suppuration formed in consequence of pneumonia.

DCCCXXXIX.

From the symptoms mentioned in (CCCLV.—CCCLVI.), we conclude very confidently,

confidently, that an abscess, or, as it is called, a *vomica*, is formed in some part of the pleura, and most frequently in that portion of it investing the lungs. Here purulent matter frequently remains for some time, as if inclosed in a cyst; but commonly not long before it comes to be either absorbed, and transferred to some other part of the body, or breaks through into the cavity of the lungs, or into that of the thorax. In the latter case, it produces the disease called *empyema*; but it is only when the matter is poured into the cavity of the bronchiae that it properly constitutes the phthisis pulmonalis. In the case of empyema, the chief circumstances of a phthisis are indeed also present; but we shall here consider only that case in which the abscess of the lungs gives occasion to a purulent expectoration.

DCCCXL.

An abscess of the lungs, in consequence of pneumonia, is not always followed by a phthisis; for sometimes a hectic fever is not formed; the matter poured into the bronchiae is a proper and benign pus, which frequently is coughed up very readily, and spit out; and, though this purulent expectoration should continue for some time, if a hectic does not come on, the ulcer soon heals, and every morbid symptom disappears. This has so frequently happened, that we may conclude, that neither the access of the air, nor the constant motion of the lungs, will prevent an ulcer of these parts from healing, if the matter of it be well conditioned. An abscess of the lungs, therefore, does not necessarily produce the phthisis pulmonalis; and, if it is followed by such a disease, it must be in consequence of particular circumstances which corrupt the purulent matter produced, render it un-

fuitable to the healing of the ulcer, and, at the same time, make it afford an acrimony, which, absorbed, produces a hectic, and its consequences.

DCCCXLI.

The corruption of the matter of such abscesses may be owing to several causes, as,
1. That the matter effused during the inflammation had not been a pure serum fit to be converted into a laudable pus, but had been joined with other matters which prevented that, and gave a considerable acrimony to the whole : Or, 2. That the matter effused, and converted into pus, merely by long stagnation in a vomica, or by its connection with an empyema, had been so corrupted, as to become unfit for the purpose of pus, in the healing of the ulcer. These seem to be possible causes of the corruption of matter in abscesses, so as to make it the occasion of a phthisis in persons otherwise

wise

wife found; but it is probable that a pneu-
monic abscess, especially produces phthisis
when it happens to persons previously dis-
posed to that disease, and therefore only as
concurring with some other causes of it.

DCCCXLII.

The third cause supposed to produce a
phthisis is a catarrh, which, in many cases,
seems, in length of time, to have the expecto-
ration of mucus proper to it gradually
changed to an expectoration of pus; and, at
the same time, by the addition of a hectic
fever, the disease, which was at first a pure
catarrh, is changed into a phthisis. But
this supposition is not easily to be admitted.
The catarrh is properly an affection of the
mucous glands of the trachea and bronchiae,
analogous to the coryza, and less violent
kinds of cynanche tonsillaris, which very
seldom end in suppuration. And, although
a catarrh should be disposed to do so, the
ulcer

ulcer produced might readily heal up, as it does in the case of a cynanche tonsillaris; and therefore should not produce a phthisis.

DCCCXLIII.

Further, the catarrh, as purely the effect of cold, is generally a mild disease, as well as of short duration; and there are, at most, but very few cases of the numerous instances of it, which can be said to have ended in a phthisis. In all these cases in which this seems to have happened, it is to me probable, that the persons affected were peculiarly predisposed to phthisis. And the beginning of phthisis so often resembles a catarrh, that the former may have been mistaken for the latter. It often happens also, to increase the fallacy, that the application of cold, which is the most frequent cause of catarrh, is also frequently the ex-
citing

citing cause of the cough, which proves the beginning of a phthisis.

DCCCXLIV.

It is to me, therefore, probable, that a catarrh is very seldom the foundation of a phthisis; but I would not positively assert that it never is so; for it is possible that the cases of a more violent catarrh may have a pneumonic affection joined with them, which may end in a suppuration; or it may happen that a long continued catarrh, by the violent agitation of the lungs in coughing, shall produce some of these tubercles which we are presently to mention as the most frequent cause of phthisis.

DCCCXLV.

We would have it particularly to be observed here, that nothing we have said in (DCCCXLIV.) should allow us to neglect
any

appearance of catarrh, as is too frequently done ; for it may be either the beginning of a phthisis, which is mistaken for a genuine catarrh, or that, even as a catarrh, continuing long, it may produce a phthisis, as in (DCCCXLIV.)

DCCCXLVI.

Many physicians have supposed that an acrimony of the fluids eroding some of the vessels of the lungs is a frequent cause of ulceration and phthisis ; but this appears to me to be a mere supposition ; for, in any of the instances of the production of the phthisis which I have seen, there was no evidence of any acrimony of the blood capable of eroding the vessels. It is true, indeed, that, in many cases, an acrimony subsisting in some part of the fluids is the cause of the disease ; but it is, at the same time, probable, that this acrimony operates, by producing tubercles, rather than by any direct erosion.

DCCCXLVII.

DCCCXLVII.

I have said (DCCCXXXV.) that an asthma may be considered as one of the causes of phthisis; and, by asthma, I mean that species which has been commonly named the spasmodic. This disease frequently subsists very long without producing any other, and may have its own peculiar fatal termination, as we shall explain hereafter. But I have seen it frequently end in a phthisis; and, in such cases, I suppose that it operates in a manner I have alledged of catarrh, that is, by producing tubercles, and their consequences, which shall be presently mentioned.

DCCCXLVIII.

We are now come to consider the fifth head of the causes of phthisis, and which we suppose to be the most frequent of any. This
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we have said, in general, to be tubercles ; and, by this term, we mean certain small tumours, which have the appearance of indurated glands. Dissections have frequently shewn such tubercles formed in the lungs ; and we suppose them to be at first indolent, but, at length, they become inflamed, and are thereby changed into little abscesses, or vomicae, which breaking, and pouring their matter into the bronchiae, give a purulent expectoration, and thus lay the foundation of a phthisis.

DCCCXLIX.

Though the matter expectorated on these occasions has the appearance of pus, it is seldom that of a laudable kind ; and, as the ulcers do not readily heal, but are attended with a hectic fever, for the most part ending fatally, we presume that the matter of the ulcers is imbued with a peculiarly noxious

ious acrimony, which prevents their healing, and produces a phthisis, in all its circumstances, as mentioned above.

DCCCL.

It is very probable that the acrimony, which thus discovers itself in the ulcers, existed before, and produced the tubercles themselves ; and it is to this acrimony that we must trace up the cause of the phthisis following these tubercles. This acrimony is probably in different cases of different kinds, and it will not be easy to determine its varieties ; but, to a certain length, we shall attempt it.

DCCCLI.

In one case, and a very frequent one of phthisis, it appears that the noxious acrimony is of the same kind with that which prevails in the scrophula. We conclude

this from observing, that a phthisis, at its usual periods, frequently attacks persons who had been born of scrophulous parents, that is, of parents who had been affected with scrophula in their younger years ; that very often, when the phthisis appears, there occur at the same time some lymphatic tumours in the external parts ; and very often I have found the *tabes mesenterica*, which is a scrophulous affection, joined with the phthisis *pulmonalis*. To all this I would add, that, even when no scrophulous affection has either manifestly preceded or accompanied a phthisis, this last, however, most commonly affects persons of a habit resembling the scrophulous, that is, persons of a sanguine, or of a sanguineo-melancholic temperament, who have very fine skins, rosy complexions, large veins, soft flesh, and thick upper lip ; and further, that in such persons the phthisis comes on in the same manner, as we shall explain immediately, it does in persons having tubercles.

DCCCLII.

Another species of acrimony producing tubercles of the lungs, and thereby phthisis, may be said to be the exanthematic. It is well known that the small-pox sometimes, and more frequently the measles, lay the foundation of a phthisis. It is probable, also, that other exanthemata have the same effect ; and, from the phenomena of the disease, and the dissections of persons who have died of it, it is probable that all the exanthemata may occasion a phthisis, by affording a matter which, in the first place, produces tubercles.

DCCCLIII.

Another acrimony, which seems sometimes to produce a phthisis, is the siphylitic ; but whether such an acrimony produces

duces phthisis in any other persons than the previously disposed, does not appear to me certain.

DCCCLIV.

What other species of acrimony, as from scurvy, from pus absorbed from other parts of the body, from suppressed eruptions, or from other sources, may also produce tubercles and phthisis, we cannot now decide, but must leave it to be determined by persons who have had experience of such cases.

DCCCLV.

There is one peculiar case of phthisis, which, from our own experience, we can take notice of. This is the case of phthisis from a calcareous matter formed in the lungs, and coughed up, frequently with a
little

little blood, sometimes with mucus only, and sometimes with pus. How this matter is generated, or in what part of the lungs precisely it is seated, I acknowledge myself ignorant. In three cases of this kind which have occurred to me, there was, at the same time, no appearance of stony or earthy concretions in any other part of the body. In one of these cases, an exquisitely formed phthisis came on, and proved mortal; while, in the other two, the symptoms of phthisis were never fully formed, and, after some time, merely by a milk diet, and avoiding irritation, the patients entirely recovered.

DCCCLVI.

Another foundation for phthisis, analogous, as I judge, to that of tubercles, is that which occurs to certain artificers, whose employments keep them almost constantly exposed

posed to dust, such as stone-cutters, millers, flax-dressers, and some others. We have not observed, in this country, many cases of phthisis which could be referred to this cause; but, from RAMAZZINI, MORGAGNI, and some other writers, we must conclude such cases to be more frequent in the southern parts of Europe.

DCCCLVII.

Besides these now mentioned, there are probably some other causes producing tubercles, which have not yet been ascertained by observation; and there is probably, in the state of tubercles, a variety not yet accounted for; but all this we must leave to future observation and inquiry.

DCCCLVIII.

DCCCLVIII.

It has been frequently supposed by physicians, that the phthisis is a contagious disease, and I dare not assert that it never is such; but, in many hundred instances of the disease which I have seen, there has been hardly one I could judge to have arisen from contagion. It is possible that, in warmer climates, the effects of contagion may more readily appear.

After having said that a phthisis arises from tubercles more frequently than from any other cause, and after having attempted to assign the variety of these, I now proceed to mention the peculiar circumstances and symptoms which usually accompany the coming on of the disease from tubercles.

DCCCLIX.

DCCCLIX.

A tuberculous and purulent state of the lungs has been observed in very young children, and in some others, at several different periods, before the age of puberty and full growth; but instances of this kind are rare; and the attack of a phthisis, which we have reason to impute to tubercles, usually happens at the same period which we have assigned for the coming on of the hemoptysis.

DCCCLX.

The phthisis from tubercles does also generally affect the same habits as the hemoptysis does, that is, persons of a slender make, of long necks, narrow chests, and prominent shoulders; but very frequently the persons liable to tubercles have less of the florid
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countenance, and of the other marks of an exquisitely sanguine temperament, than the persons liable to hemoptysis.

DCCCLXI.

This disease, arising from tubercles, usually commences with a slight and short cough, which becomes habitual, is often little remarked by the persons affected, and sometimes so little as to be absolutely denied by them. At the same time, their breathing becomes easily hurried by any bodily motion, their body grows leaner, and they become languid and indolent. This state sometimes continues for a year, or even for two years, without the persons making any complaint of it, excepting only that they are affected by cold more readily than usual, which frequently increases their cough, and produces some catarrh. This, again, however, is sometimes relieved, is supposed to have arisen from cold alone, and therefore

gives no alarm either to the patient, or to his friends, nor leads them to take any precautions.

DCCCLXII.

Upon one or other of these occasions of catching cold, as we commonly speak, the cough becomes more considerable, is particularly troublesome upon the patient's lying down at night, and, in this state, continues longer than is usual in the case of a simple catarrh. This is more especially to call for attention, if the increase and continuance of cough come on during the summer season.

DCCCLXIII.

The cough which comes on as in (DCCCLXI.), is very often for a long time without any expectoration ; but, on the occasions, as in (DCCCLXII.), when it grows more constant, it comes to be, at the same
time,

time, attended with an expectoration, which is most considerable in the mornings. The matter of this expectoration becomes by degrees more copious, more viscid, and more opake; at length of a yellow or greenish colour, and of a purulent appearance. The whole of the matter, however, is not always at once entirely changed in the manner now mentioned; but, while one part of it retains the usual form of mucus, another suffers the changes we have described.

DCCCLXIV.

When the cough increases, and continues very frequent through the night, and when the matter expectorated undergoes the changes we have mentioned, the breathing, at the same time, becomes more difficult, and the emaciation and weakness go on also increasing. In the female sex, as the disease advances, and sometimes early in its progress, the

the menses cease to flow ; and this circumstance we consider as commonly the effect of the disease, although the sex themselves are ready to believe it to be the sole cause of the disorder.

DCCCLXV.

When the cough comes on as in (DCCCLXI.), the pulse is often natural, and, for some time after, continues to be so; but the symptoms have seldom subsisted long before the pulse becomes frequent, and sometimes to a considerable degree, without much of the other symptoms of fever; but, at length, evening exacerbations become remarkable, and, by degrees, the fever assumes the exquisite form of hectic, as described in (DCCCXXX.—DCCCXXXII.)

DCCCLXVI.

DCCCLXVI.

It is feldom that the cough, expectoration, and fever, go on increafing, in the manner we have defcribed, without fome pain being felt in fome part of the thorax. It is ufually, and moft frequently, felt at firft under the fternum, and that efpecially, or almoft only, upon occafion of coughing ; but very often, and that too early in the courfe of the difeafe, a pain is felt on one fide, fometimes very constantly, and fo as to prevent the perfon from lying eafily upon that fide ; but at other times the pain is felt only upon a full breathing, or upon coughing. Even when no pain is felt, it generally happens that phthifical perfons cannot lie eafily on one or other fide, without having their difficulty of breathing increafed, and their cough excited.

DCCCLXVII.

DCCCLXVII.

The phthisis begins, and sometimes proceeds to its fatal issue, in the manner described from (DCCCLXI. to DCCCLXVII.), without any appearance of hemoptysis. Such cases are, indeed, rare; but it is very common for the disease to advance very far, and even to an evident purulency and hectic state, without any appearance of blood in the spitting; so that it may be affirmed, the disease is frequently not founded in hemoptysis. At the same time, we must allow not only that it sometimes begins with a hemoptysis, as said in (DCCCXXIV.), but further, that it seldom happens that, in the progress of the disease, more or less of a hemoptysis does not appear. Some degree of blood-spitting does, indeed, appear sometimes in the state mentioned (DCCCLXI. DCCCLXII.) but more commonly in the more advanced

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ced stages of the disease only, and, particularly, upon the first appearance of purulency. However this may be, in the phthisis from tubercles, it is seldom that the hemoptysis is considerable, or requires any remedies different from those which have otherwise necessary for the state of the tubercles.

DCCCLXVIII.

We have now described a succession of symptoms which, in different cases, occupies more or less time. In this climate, it very often takes up some years, the symptoms appearing especially in the winter and spring, commonly becoming easier, and sometimes almost disappearing, during the summer; but returning again in winter, they at length, after two or three years, prove fatal, towards the end of spring or beginning of summer.

DCCCLXIX.

DCCCLXIX.

In this disease, the prognosis is for the most part unfavourable. Of those affected with it, the greater number die; but there are also many of them who recover entirely, after having been in very unpromising circumstances. What are, however, the circumstances, more certainly determining to a happy or to a fatal event, I have not yet been able to ascertain.

DCCCLXX.

The following aphorisms are the result of my observations.

A phthisis pulmonalis from hemoptysis, is more frequently recovered than one from tubercles.

A hemoptysis is not only not always followed by a phthisis, as we have said above,
(DCCCXXXVI.)

(DCCCXXXVI.) but even when followed by an ulceration, the ulceration is sometimes attended with little of hectic, and frequently admits of being soon healed. Even when the hemoptysis and ulceration have happened to be repeated, we have had instances of persons recovering entirely after several such repetitions.

A phthisis from a suppuration in consequence of pneumonic inflammation, is that which most rarely occurs in this climate ; and a phthisis does not always follow such a suppuration, when the abscess formed soon breaks and discharges a laudable pus ; but, if the abscess continues long shut up, and till after a considerable degree of hectic has been formed, a phthisis is then produced, equally dangerous as that from other causes.

A phthisis from tubercles has, I think, been recovered ; but it is of all others the most dangerous, and when arising from a hereditary taint, is almost certainly fatal.

The danger of a phthisis, from whatever cause it may have arisen, is most certainly to be judged of by the degree to which the hectic and its consequences have arrived. From a certain degree of emaciation, debility, profuse sweating, and diarrhoea, no person recovers.

A mania coming on has been found to remove all the symptoms, and sometimes has entirely cured the disease; but, in other cases, upon the going off of the mania, the phthisis has recurred, and proved fatal.

The pregnancy of women has often retarded the progress of a phthisis; but commonly it is only till after delivery, when the symptoms of phthisis return with violence, and soon prove fatal.

S E C ' T. II.

O F T H E C U R E O F P H T H I S I S.

DCCCLXXI.

From what has been just now said, it will readily appear, that the cure of the phthisis pulmonalis is exceedingly difficult, and that the utmost care and attention in the employment of remedies have seldom succeeded. It may be doubtful whether this failure is to be imputed to the imperfection of our art, or to the absolutely incurable nature of the disease. I am extremely averse in any case to admit of the latter supposition, and can always readily allow of the former ; but, in the mean time, we must mention
here

here what has been attempted towards curing or moderating the violence of this disease.

DCCCLXXII.

It will be obvious, that, according to the different circumstances of this disease, the method of cure must be different. Our first attention should be employed in watching the approach of the disease, and preventing its proceeding to an incurable state.

In all persons of a phthifical habit, and especially in those born of phthifical parents, the slightest symptoms of the approach of phthisis, at the phthifical period of life, ought to be attended to.

DCCCLXXIII.

When a hemoptysis occurs, though it be not always followed with ulceration and phthisis; these, however, are always to be apprehended ;

apprehended ; and every precaution is to be taken against them. This is especially to be done by employing every means of moderating the hemorrhagy, and of preventing the return of it, as directed in (DCCCXX. *et seq.*) ; and these precautions are always to be continued for several years after the occurrence of the hemoptysis.

DCCCLXXIV.

The phthisis which follows a suppuration from pneumonic inflammation, can only be prevented with certainty by obtaining a resolution of such inflammation. What may be attempted towards the cure of an abscess and ulcer which have taken place, we shall speak of hereafter.

DCCCLXXV.

We have said, it is doubtful if a genuine catarrh ever produces a phthisis ; but we
have

have allowed that it possibly may, and both upon this account, and upon account of the ambiguity which may arise, whether the appearing catarrh be a primary disease, or the effect of a tubercle, we consider it as of the utmost consequence to cure a catarrh as soon as possible after its first appearance. And more especially when it shall linger, and continue for some time, or shall, after some intermission, frequently return, the cure of it should be diligently attempted. The measures requisite for this purpose shall be mentioned afterwards, when we come to treat of catarrh as a primary disease; and, in the mean time, the means necessary for preventing its producing a phthisis, we shall mention immediately, as they are the same with those we shall point out, as necessary for preventing a phthisis from tubercles.

DCCCLXXVI.

The preventing of a phthisis from asthma must be by curing, if possible, the asthma, or, at least, by moderating it as much as may be done; and, as it is probable that asthma occasions phthisis, by producing tubercles, the measures necessary for preventing phthisis from asthma, will be the same with those necessary in the case of tubercles, which we are now about to mention.

DCCCLXXVII.

We consider tubercles as by much the most frequent cause of phthisis; and even in many cases, where this seems to depend on hemoptysis, catarrh, or asthma, it does, however, truly arise from tubercles. It is upon this subject, therefore, that I shall have occasion

occasion to treat of the measures most commonly requisite for curing phthisis.

DCCCLXXVIII.

When, in a person born of phthifical parents, of a phthifical habit, at the phthifical period of life, the symptoms, (DCCCLXI.), in the spring, or beginning of summer, shall appear in the slightest degree, we may presume that a tubercle, or tubercles, have been formed or are forming in the lungs, and, therefore, that every means that we can devise for preventing their formation, or for procuring their resolution, should be employed immediately, though the patient himself should overlook or neglect the symptoms, as imputing them to accidental cold.

DCCCLXXIX.

DCCCLXXIX.

This is certainly the general indication ; but how it may be executed I cannot readily say. I do not know that, at any time, physicians have proposed any remedy capable of preventing the formation of tubercles, or of resolving them when formed. The analogy of scrophula gives no assistance in this matter. In scrophula the remedy seemingly of most power is sea-water, or certain mineral waters ; but these have generally proved hurtful in the case of tubercles of the lungs. I have known several instances of mercury very fully employed for certain diseases, in persons who were supposed at the time to have tubercles formed, or forming in the lungs ; but, though the mercury proved a cure for those other diseases, it was of no service in preventing

venting a phthisis ; and, in some cases, it seemed to hurry it on.

DCCCLXXX.

Such appears to me to be the present state of our art with respect to the cure of tubercles ; but I do not despair of a remedy for the purpose being found hereafter. In the mean time, all that at present seems to be within the reach of our art, is to take the measures proper for avoiding the inflammation of tubercles. It is probable that tubercles may subsist long without producing any disorder ; and I am disposed to think, that nature sometimes resolves and discusses tubercles which have been formed, but that nature does this only while the tubercles remain in an uninflamed state ; and, therefore, that, in the case of tubercles, the measures necessary are chiefly those for avoiding the inflammation of them.

DCCCLXXXI.

DCCCLXXXI.

The inflammation of a tubercle of the lungs is to be avoided upon the general plan of avoiding inflammation, by blood-letting, and by an antiphlogistic regimen, the chief part of which, in this case, is the use of a low diet. This supposes a total abstinence from animal food, and the using of vegetable food almost alone ; but it has been found that it is not necessary for the patient to be confined to vegetables of the weakest nourishment, but that it is enough the farinacea be employed, and, together with these, milk.

DCCCLXXXII.

Milk has been generally considered as the chief remedy in phthisis, and in the case of every tendency to it ; but, whether from its peculiar qualities, or from its being of a lower quality, with respect to nourishment,

ment, than any food entirely animal, is not certainly determined. The choice and administration of milk will be properly directed, by considering the nature of the milk of the several animals from which it may be taken, and the particular state of the patient, with respect to the period and circumstances of the disease, and to the habits of his stomach, with respect to milk.

DCCCLXXXIII.

A second means of preventing the inflammation of the tubercles of the lungs, is, by avoiding any particular irritation of the affected part, which may arise from any violent exercise of respiration; from any considerable degree of bodily exercise; from any position of the body which straitens the capacity of the thorax; and, lastly, from cold applied to the surface of the body, which determines the blood in greater quantity to the internal parts, and particularly to the lungs.

DCCCLXXXIV.

DCCCLXXXIV.

From the last mentioned consideration, the application of cold in general, and therefore the winter-season, in cold climates, as diminishing the cutaneous perspiration, is to be avoided ; but more particularly, is that application of cold to be avoided, which may suppress perspiration, to the degree of occasioning a catarrh, which consists in an inflammatory determination to the lungs, and may therefore most certainly produce an inflammation of the tubercles there.

By considering that the avoiding of heat is a part of the antiphlogistic regimen recommended above, and by comparing this with what has been just now said with respect to avoiding cold, the proper choice of climates and seasons for phthifical patients will be readily understood.

DCCCLXXXV.

DCCCLXXXV.

A third means of avoiding the inflammation of the tubercles of the lungs consists in diminishing the determination of the blood to the lungs, by supporting and increasing the determination to the surface of the body; which is to be chiefly and most safely done by warm cloathing, and the frequent exercise of gestation.

DCCCLXXXVI.

Every mode of gestation has been found of use in phthysical cases; but riding on horseback, as being accompanied with a great deal of bodily exercise, is less safe in persons liable to a hemoptysis. Travelling in a carriage, unless upon very smooth roads, may also be of doubtful effect; and all the modes of gestation that are employed on land may fall
short

short of the effects expected from them, because they cannot be rendered sufficiently constant ; and it is therefore that failing, of all other modes of gestation, is the most effectual in pneumonic cases, as being both the smoothest and most constant.

It has been imagined, that some benefit is derived from the state of the atmosphere upon the sea ; but I cannot find that any impregnation of this which can be supposed to take place, can be of service to phthysical persons. It is, however, probable, that frequently some benefit may be derived from the more moderate temperature of the air upon the sea.

DCCCLXXXVII.

For taking off any inflammatory determination of the blood into the vessels of the lungs, blisters, applied to some part of the thorax, may often be of service ; and, for the same purpose, as well as for moderating
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the general inflammatory state of the body, issues of various kinds may be properly employed.

DCCCLXXXVIII.

We have now mentioned the several measures to be pursued in the case of what is properly called an incipient phthisis; but they have seldom been employed in such cases in due time, and have, therefore, perhaps, seldom proved effectual. It has more commonly happened, that, after some time, an inflammation has come upon the tubercle, and an abscess has been formed, which opening into the cavity of the bronchiae has produced an ulcer, and a confirmed phthisis.

DCCCLXXXIX.

In this state of matters, some new indications different from the former may be supposed to arise; and indications for preventing

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ing absorption, for preventing the effects of the absorbed matter upon the blood, and for healing the ulcer, have been actually proposed ; but I cannot find that any of the means proposed for executing these indications are either probable, or have proved effectual. If, upon some occasions, they have appeared to be useful, it has been probably by answering some other intention.

While no antidote against the poison which especially operates here, seems to have been as yet found out, it appears to me, that too great a degree of inflammation has a great share in preventing the healing of the ulcer which occurs; and it is certainly what has a great share in urging on the fatal consequences of it. The only practice, therefore, which we can propose, is the same in the ulcerated as in the crude state of a tubercle, that is, the employment of means for moderating inflammation, which we have already mentioned (DCCCLXXXI.) *et seq.*)

DCCCXC.

The balsamics, whether natural or artificial, which have been so commonly advised in cases of phthisis, appear to me to have been proposed upon no good ground, and commonly to have proved hurtful. The resinous and acrid substance of myrrh lately recommended, has not appeared to me to be of any service, and, in some cases, to have proved hurtful.

DCCCXCI.

Mercury, so often useful in healing ulcers, has been speciously enough proposed in this case; but whether that it be not adapted to the particular nature of the ulcers of the lungs occurring in phthisis, or that because it cannot have effect here, without exciting such an inflammatory state of the whole system

system as, in a hectic state, proves very hurtful, I cannot determine. Upon many trials which I have seen made, it has proved of no service, and commonly has appeared to be manifestly pernicious.

DCCCXCII.

The Peruvian bark has been recommended for several purposes in phthical cases; and is said, on some occasions, to have been useful; but I have seldom found it to be so; and as, by its tonic power, it increases the phlogistic diathesis of the system, I have frequently found it hurtful. In some cases, where the morning remissions of the fever were considerable, and the noon exacerbations well marked, I have known the Peruvian bark given in large quantities, with the effect of stopping these exacerbations, and, at the same time, of relieving the whole of the phthical symptoms; but,
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in these cases, the fever shewed a constant tendency to recur; and at length the phthical symptoms also returned, and proved quickly fatal.

DCCCXCHII.

Acids of all kinds, as antiseptic and refrigerant, are useful in cases of phthisis; but the native acid of vegetables is more useful than the fossil acids, as it can be given in much larger quantities, and it may also be given more safely than vinegar, being less liable to excite coughing.

DCCCXCIV.

Though our art can do so little towards the cure of this disease, we must, however, palliate the uneasy symptoms of it as well as we can. The symptoms especially urgent are the cough and diarrhoea. The cough may be in some measure relieved by demulcents,

cents, (DCXXXVIII.) but the relief obtained by these is imperfect and transitory, and very often the stomach is disturbed by the quantity of oily, mucilaginous, and sweet substances, which are on these occasions taken into it.

DCCCXCV.

The only certain means of relieving the cough, is by employing opiates. These, indeed, certainly increase the phlogistic diathesis of the system, but commonly they do not so much harm in this way, as they do service by quieting the cough, and giving sleep. They are supposed to be hurtful, by checking expectoration; but they do it for a short time only; and after a sound sleep, the expectoration in the morning is more easy than usual. In the advanced state of the disease, opiates seem to increase the sweatings which occur; but they compensate this, by the ease they afford in a disease which cannot be cured.

DCCCXCVI.

DCCCXCVI.

The diarrhoea which happens in the advanced state of this disease, is to be palliated by moderate astringents, mucilages, and opiates.

Rhubarb, so commonly prescribed in every diarrhoea, and all other purgatives, are extremely pernicious in the colliquative diarrhoea of hectics.

Fresh subacid fruits, supposed to be always laxative, are often in the diarrhoea of hectics, by their antiseptic quality, very useful.

CHAP.

C H A P. V.

O F T H E H Æ M O R R H O I S,

O R

O F T H E H Æ M O R R H O I D A L S W E L L I N G
A N D F L U X.

S E C T. I.

O F T H E P H E N O M E N A A N D C A U S E S O F
T H E H Æ M O R R H O I S.

DCCCXCVII.

A discharge of blood from small tumours, on the verge of the anus, is the symptom which generally constitutes the hæmorrhoids, or, as it is vulgarly called, the hæmorrhoidal flux. But a discharge of blood from within the anus, when the blood is of a florid colour,

colour, shewing it to have come from no great distance, is also considered as the same disease; and physicians have agreed in making two cases, or varieties of the same, under the names of external and internal haemorrhoids.

DCCCXCVIII.

In both cases, it is supposed that the flow of blood is from tumours, previously formed, which are named haemorrhoids or piles; and it frequently happens, that the tumours exist without any discharge of blood; in which case, however, they are supposed to be a part of the same disease, and are, in that case, named *Haemorrhoides Caecae*, or Blind Piles.

DCCCXCIX.

These tumours, as they appear without the anus, are sometimes separate, round,
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and prominent on the verge of the anus ; but frequently the tumour is only one tumid ring, forming, as it were, the anus pushed without the body.

DCCCC.

These tumours, and the discharge of blood from them, sometimes come on as an affection purely topical, and without any previous disorder in other parts of the body ; but it frequently happens, even before the tumours are formed, and more especially before the blood flows, that various disorders are felt in different parts of the body, as headach, vertigo, stupor, difficulty of breathing, sickness, cholic pains, pain of the back and loins ; and often, together with more or fewer of these symptoms, there occurs a considerable degree of pyrexia.

The coming on of the disease with these symptoms is usually attended with a sense

of fulness, heat, itching, and pain, in and about the anus.

Sometimes the disease is preceded by a discharge of ferous matter from the anus ; and sometimes this ferous discharge, accompanied with some swelling, seems to be in place of the discharge of blood, and to relieve the disorders of the system we have mentioned. This ferous discharge, therefore, has been named the *Haemorrhoids Alba*.

DCCCCI.

In the *haemorrhoids*, the quantity of blood discharged is different, upon different occasions. Sometimes the blood flows only upon the person's going to stool ; and, commonly, in larger or lesser quantity, follows the discharge of the *faeces*. In other cases, the blood flows without any discharge of *faeces* ; and then, generally, in consequence of the previous disorders above mentioned, when it is also commonly in larger quantity.

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This is often very considerable ; and, by the repetition, so great, as we could hardly suppose the body to bear but with the hazard of life. Indeed, though rarely, it has been so great as to prove suddenly fatal. These considerable discharges occur especially to persons who have been frequently liable to the disease. They often induce great debility ; and frequently a leucophlegmatia, or dropfy, which proves fatal.

The tumours and discharges of blood in this disease, often recur at exactly stated periods.

DCCCCII.

It often happens, in the decline of life, that the haemorrhoidal flux, formerly frequent, ceases to flow ; and, upon that event, it generally happens that the persons are affected with apoplexy or palsy.

DCCCCIII.

DCCCCIII.

Sometimes haemorrhoidal tumours are affected with considerable inflammation, which, ending in suppuration, gives occasion to the formation of fistulous ulcers in those parts.

DCCCCIV.

The haemorrhoidal tumours have been often considered as varicous tumours, or dilatations of veins; and it is true, that in some cases varicous dilatations have appeared upon dissection. These, however, do not always appear; and, we presume it is not the ordinary case, but that the tumours are formed by an effusion of blood into the cellular texture of the intestine near to its extremity. These tumours, especially when recently formed, frequently contain fluid blood; but, after they have remained for
some

some time, they are commonly of a firmer substance.

DCCCCV.

From a consideration of their causes, to be hereafter mentioned, it is sufficiently probable, that haemorrhoidal tumours are produced by some interruption of the free return of blood from the veins of the lower extremity of the rectum; and it is possible, that a considerable accumulation of blood in these veins may occasion a rupture of their extremities, and thus produce the haemorrhagy or tumours we have mentioned. But, considering that the haemorrhagy occurring here is often preceded by pain, inflammation, and a febrile state, and with many other symptoms which shew a connection of the topical affection with the state of the whole system, it is probable that the interruption of the venous blood, which we have supposed operates as in (DCCXLII.),
and,

and, therefore, that the discharge of blood is here commonly from arteries.

DCCCCVI.

Some physicians have been of opinion, that a difference of the hæmorrhoids, and of its effects upon the system, might arise from the difference of the hæmorrhoidal vessels from which the blood issued. But I am of opinion, that it is hardly in any case we can distinguish the vessels from which the blood flows; and that the frequent anastomoses, of both the arteries and veins, that belong to the lower extremity of the rectum, will render the effects of the hæmorrhagy nearly the same, from whichever of these vessels the blood proceeds.

DCCCCVII.

In (DCCXLII.), we have explained the manner in which a certain state of the sanguiferous

guiferous system might give occasion to a haemorrhoidal flux ; and I have no doubt, that this flux may be produced in that manner. But I cannot by any means think that the disease is so often produced in that manner, or that, on its first appearance, it is so frequently a systematic affection, as the Stahlians have imagined, and would have us to believe. It happens to many persons before the period of life at which the venous plethora takes place ; it happens to females, in whom a venous plethora, determined to the haemorrhoidal vessels, cannot be supposed ; and it happens to both sexes, and to persons of all ages, from causes which do not affect the system, and are manifestly suited to produce a topical affection only.

DCCCCVIII.

These causes of a topical affection are, in the first place, the frequent voiding of hard and bulky faeces, which, not only by their long stagnation in the rectum, but especially when voided, must press upon the veins of it, and interrupt the course of the blood in them. It is, for this reason, that the disease happens so often to persons of a slow and bound belly.

DCCCCIX.

From the causes just now mentioned, the disease happens especially to persons liable to some degree of a prolapsus ani. Almost every person in voiding faeces has the internal coat of the rectum more or less protruded without the body; and this will be to a greater or lesser degree, according as the hardness and bulk of the faeces occasion

a greater or lesser effort or pressure upon the anus. While the gut is thus pushed out, it often happens, that the sphincter ani is contracted before the gut is replaced; and, in consequence thereof, a strong constriction is made, which preventing the fallen out gut from being replaced, and, at the same time, preventing the return of blood from it, occasions its being considerably swelled, and its forming a tumid ring round the anus.

DCCCCX.

Upon the sphincter's being a little relaxed, as it is immediately after its strong contraction, the fallen out portion of the gut is commonly again taken within the body; but, by the frequent repetition of such an accident, the size and fulness of the ring formed by the fallen out gut is much increased. It is therefore more slowly and

difficultly replaced ; and in this consists the chief uneasiness of haemorrhoidal persons.

DCCCCXI.

As the internal edge of the ring mentioned, is necessarily divided by clefts, the whole often puts on the appearance of a number of distinct swellings; and it also frequently happens, that some portions of it are more considerably swelled, become more protuberant, and form those small tumours more strictly called Haemorrhoids or Piles.

DCCCCXII.

From considering that the pressure of faeces, and other causes interrupting the return of venous blood from the lower extremity of the rectum, may operate a good deal higher up than that extremity, we can understand, that tumours may be formed within the anus; and probably it also happens, that some of
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the tumours formed without the anus, as in (DCCCCXI.) may continue when taken within the body, and even be increased by the causes just now mentioned. It is thus that we explain the production of internal piles, which, on account of their situation and bulk, are not protruded on the person's going to stool, and are often, therefore, more painful. The same internal piles are especially painful, when affected by the haemorrhagic effort described in (DCCCC.)

DCCCCXIII.

The production of piles is particularly illustrated by this, that pregnant women are frequently affected with that disease. This is to be accounted for, partly by the pressure of the uterus upon the rectum, and partly by the costive habit to which pregnant women are usually liable. I have known many instances

instances of piles happening for the first time during the state of pregnancy ; and there are few women who have born children, who are afterwards entirely free from piles. The Stahlians have generally asserted, that the male sex is more frequently affected with this disease than the female ; but I have constantly found it otherwise in this country.

DCCCCXIV.

It is commonly supposed that the frequent use of purgatives, of those especially of the more acrid kind, and more particularly of aloetics, is apt to produce the hæmorrhoidal affection ; and, as these purgatives stimulate particularly the great guts, it seems sufficiently probable that they excite this disease,

DCCCCXV.

DCCCCXV.

We have now mentioned several causes which may produce the haemorrhoidal tumours and flux, as a topical affection only ; but must observe farther, that, although the disease appears first as a purely topical affection, it may, by frequent repetition, become habitual, and, therefore, may become connected with the whole system, in the manner we have explained, with respect to haemorrhagy in general, in (DCCXIX.—DCCXXI.)

DCCCCXVI.

The doctrine referred to, it is apprehended, will apply very fully to the case of the haemorrhoidal flux ; and more readily from the person who has been once affected being much exposed to a renewal of the causes which first occasioned

occasioned the disease ; from many persons being much exposed to a congestion in the haemorrhoidal vessels, in consequence of their being often in an erect position of the body, and in an exercise which pushes the blood into the depending vessels, while, at the same time, the effects of these circumstances are much favoured by the abundance and laxity of the cellular texture about the rectum.

DCCCCXVII.

It is thus that the haemorrhoidal flux is so often artificially rendered an habitual and systematic affection ; and I am persuaded, that it is this which has given occasion to the Stahlins to consider the disease as almost universally such.

DCCCCXVIII.

DCCCCXVIII.

It is to be particularly observed here, that when the haemorrhoidal disease has either been originally, or has become, in the manner just now explained, a systematic affection, it then acquires a particular connection with the stomach, so that certain affections of the stomach excite the haemorrhoidal disease, and certain states of the haemorrhoidal affection excite disorders of the stomach.

It is perhaps owing to this connection, that the gout sometimes affect the rectum. See (CCCCXCIX.)

S E C T.

S E C T. II.

OF THE CURE OF HÆMORRHOIDAL
AFFECTIONS.

DCCCCXIX.

Almost at all times, it has been an opinion amongst physicians, and from them spread amongst the people, that the hæmorrhoidal flux is a salutary evacuation, which prevents many diseases that would otherwise have happened; and that it even contributes to give long life. This opinion, in later times, has been especially maintained by Dr Stahl, and his followers; and has
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had a great deal of influence upon the practice of phyfic in Germany.

DCCCCXX.

The question arifes with refpect to hæmorrhagy in general, and it has been extended fo far by the Stahlians. We have accordingly confidered it as a general queftion, (DCCLI.—DCCLV.), but it has been more efpecially agitated upon the occafion of our prefent fubject; and as to this, I am more particularly of opinion, that the hæmorrhoids may take place in confequence of the general ftate of the fyftem, or what is ftill more frequent, that, by repetition, it may become connected with the general ftate of the fyftem, and, in either cafe, cannot be fuppreffed without great caution. But notwithstanding I muft maintain, that the firft is a rare cafe; that generally the difeafe firft appears as an affection purely topical; and

that the allowing it to become habitual, is never proper. It is a nasty disagreeable disease, ready to go to excess, and to be thereby very hurtful, as well as sometimes fatal. At best, it is liable to accidents, and thereby to unhappy consequences. I am, therefore, of opinion, that not only the first approaches of the disease are to be guarded against, but even that, when it has taken place for some time, from whatever cause this may have proceeded, the flux is always to be moderated, and the necessity of it, if possible, superseded.

DCCCCXXI.

Having delivered these general rules, I proceed to mention more particularly how the disease is to be treated, according to the different circumstances in which it may appear.

When we can manifestly discern the first appearance of the disease, to arise from
causes

causes acting upon the part only, we should employ the strictest attention in guarding against the renewal of these causes.

DCCCCXXII.

One of the most frequent of the remote causes of the haemorrhoidal affection, is a slow and bound belly, (DCCCCVIII.) and this is to be constantly obviated by a proper diet, which every individual's own experience must direct; or, if the management of diet be not effectual, the belly must be kept regular by medicines, which may prove gently laxative, without irritating the rectum. In most cases, it will be of advantage to acquire a habit with respect to time, and to observe it exactly.

DCCCCXXIII.

DCCCCXIII.

Another cause of haemorrhoids to be especially attended to, is the prolapsus or protrusion of the anus, which is apt to happen on a person's having a stool, (DCCCCIX.). If it shall occur to any considerable degree, and be not at the same time easily and immediately replaced, it most certainly produces piles, or increases them when otherwise produced. Persons, therefore, liable to this prolapsus, should, upon their having been at stool, take great pains to have the gut immediately replaced, by lying down in a horizontal posture, and pressing gently upon the anus, till the reduction shall be completely obtained.

DCCCCXXIV.

DCCCCXXIV.

When the prolapsus we speak of is occasioned only by voiding hard and bulky faeces, it should be obviated by the means mentioned in (DCCCCXX.) and may be thereby avoided. But in some persons, it is owing to a laxity of the rectum ; and in such persons, it is often most considerable upon occasion of a loose stool. In such cases, the disease is to be treated by astringents, and by proper artifices for preventing the falling down of the gut.

DCCCCXXV.

These are the means to be employed upon the first approaches of the hemorrhoidal affection ; and when from neglect it shall have frequently recurred, and has become
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in some measure established, they are no less proper ; but in the latter case, some other means are also necessary. It is particularly proper to guard against a plethoric state of the body ; and, therefore, to avoid a sedentary life, a full diet, and particularly intemperance in the use of strong liquor, which I should have observed before, is, in all cases of hæmorrhagy, of the greatest influence in increasing the disposition to the disease.

DCCCCXXVI.

I need hardly repeat here, that exercise of all kinds, is a chief means of obviating and removing a plethoric state of the body ; but upon occasion of the hæmorrhoidal flux, immediately approaching, both walking and riding, as increasing the determination of the blood into the hæmorrhoidal vessels, are to be avoided. At other times,

times, when no such determination is already formed, those modes of exercise may be very properly employed.

DCCCCXXVII.

Cold bathing is another remedy that may be employed to obviate plethora, and prevent haemorrhagy ; but it is to be used with caution. When the hæmorrhoidal flux is approaching, it may be dangerous to turn it suddenly aside, by cold bathing ; but, during the intervals of the disease, this remedy may be employed with advantage ; and in persons liable to a prolapsus ani, the frequent washing of the anus with cold water may be very useful.

DCCCCXXVIII.

These are the means for preventing the recurrence of the hæmorrhoidal flux ; and
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in all cases, when it is not immediately approaching, they are to be employed. When it has actually come on, means are to be employed for moderating it, as much as possible, by the person's lying in a horizontal position upon a hard bed ; by avoiding exercise in an erect posture ; by using a cool diet ; and by avoiding external heat. From what has been said above, about being careful not to increase the determination of the blood into the hæmorrhoidal vessels, the propriety of these measures must sufficiently appear ; and, if they were not so generally neglected, many persons would escape the great trouble, and the many bad consequences which frequently result from this disease.

DCCCCXXIX.

With respect to the further cure of this disease, it is almost in two cases only, that hæmorrhoidal persons call for the assistance of
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the physician. The one is, when the affection is accompanied with much pain ; and of this there are two cases, according as the pain happens to attend the external or the internal piles.

DCCCCXXX.

The pain of the external piles arises especially when a considerable protrusion of the rectum has happened, and continuing unreduced, it is strangled by the contraction of the sphincter ; while, at the same time, no bleeding happens, to take off the swelling of the protruded portion of the intestine. Sometimes an inflammation supervenes, and greatly aggravates the pain. To relieve the pain in this case, emollient fomentations and poultices are sometimes of service ; but a more effectual relief is to be obtained by applying leeches to the tumid parts.

DCCCCXXXI.

The other case, in which haemorrhoidal persons seek assistance, is that of excessive bleeding. Upon the opinion so generally received of this discharge being salutary, and from the observation, that, upon the discharge occurring, persons have sometimes found relief from various disorders; the most part of persons liable to it are ready to let it go too far; and, indeed, the Stahlians will not allow it to be a disease, unless when it has actually gone to excess. We are, however, well persuaded, that this flux ought always to be cured as soon as possible.

DCCCCXXXII.

When the disease occurs, as a purely topical affection, there can be no doubt of the propriety of our rule; and, even when it has occurred as a critical discharge in the
case

case of a particular disease, when this disease shall be entirely cured and removed, the preventing any return of the haemorrhoids seems to be safe and proper.

DCCCCXXXIII.

It is only when the disease arises from a plethoric state of the body, and from a stagnation of blood in the hypochondriac region, or when, though originally topical, the disease, by frequent repetition, has become habitual, and has thereby acquired a connection with the whole system, that any doubt can arise as to the safety of curing it entirely. Even in these cases, we judge it will be always proper to moderate the bleeding, lest by its continuance or repetition, the plethoric state of the body, and the particular determination of the blood into the haemorrhoidal vessels, be increased, and the recurrence of the disease, with all its inconveniencies

veniencies and dangers, be too much favoured,

DCCCCXXXIV.

Further, even in the cases stated, (DCCCCXXXIII.) in so far as the plethoric state of the body, and the tendency to that state, can be obviated and removed, this is always to be diligently attempted; and if it can be executed with success, the flux may be entirely suppressed.

DCCCCXXXV.

The Stahlian opinion, that the hæmorrhoidal flux is only in excess, when it occasions great debility, or a leucophlegmatia, is by no means just; and we are of opinion, that the smallest approach towards producing either of these effects should be considered as an excess, which ought to be prevented from going farther.

DCCCCXXXVI.

DCCCCXXXVI.

In all cases, therefore, of excess, or of any approach towards it, we are of opinion, that astringents, both internal and external, may be safely and properly employed; not indeed to induce an immediate and total suppression, but to moderate the hemorrhagy, and, by degrees, to suppress it altogether, while, at the same time, measures are taken for removing the necessity of its recurrence.

DCCCCXXXVII.

When the circumstances (DCCCCXXII.) marking a connection between the hæmorrhoidal affection, and the state of the stomach occur, the measures necessary are the same as in the case of atonic gout.

C H A P. VI.

OF THE MENORRHAGIA,

OR THE

IMMODERATE FLOW OF THE MENSES.

DCCCCXXXVIII.

Blood discharged from the vagina may proceed from different sources in the internal parts; but here we mean to treat of those discharges only in which the blood may be presumed to flow from the same sources which the menses proceed from, in their
natural

natural state, and which discharges alone are those properly comprehended under our present title. The title of haemorrhagia uteri might comprehend a great deal more.

DCCCCXXIX.

The menorrhagia may be considered as of two kinds; either as it happens to pregnant and lying-in women, or as it happens to women neither pregnant nor having recently born children. The first kind, as connected with the circumstances of pregnancy and child-bearing, (which are not to be treated of in our present course) we are not to consider here, but confine ourselves to the consideration of the second kind of menorrhagia only.

DCCCCXL.

The flow of the menses is considered as immoderate, when it recurs more frequently,

ly, when it continues longer, or when, during the ordinary continuance, it is more abundant than is usual with the same person at other times.

DCCCCXLI.

As the most part of women are liable to some inequality with respect to the period, the duration, and the quantity of their menses; so it is not every inequality in these respects that is to be considered as a disease; but only those deviations which are excessive in degree, which are permanent, and which induce a manifest state of debility.

DCCCCXLII.

The circumstances (DCCCCXXXVIII. DCCCCXXXIX.) are those which chiefly constitute the menorrhagia; but it is proper

per to observe, that, though we allow that the frequency, duration, and quantity of the menses are to be judged of by what is usual with the same individual at other times ; yet we observe so much uniformity in these particulars, in the whole of the sex, that, in any individual in whom there occurs a considerable deviation from that uniformity, such a deviation, if constant in the same individual, may be considered as at least approaching to a morbid state, and as requiring most of the precautions which we shall hereafter mention as necessary to be attended to by persons who are actually in such a state.

DCCCCXLIII.

However we may determine with respect to the circumstances, (DCCCCXXXVIII.—DCCCCXL.), we still allow that the immoderate flow of the menses is especially to.

be determined by those symptoms affecting other functions, which accompany and follow the discharge.

When a larger flow of the menses has been preceded by {headach, giddiness, or dyspnoea, and has been ushered in by a cold stage, and is attended with much pain of the back and loins, with a frequent pulse, heat, and thirst, it may then be considered as preternaturally large.

DCCCCXLIV.

When in consequence of the circumstances (DCCCCXXXVIII.—DCCCXL.) and the repetition of them, the face becomes pale; the pulse becomes weak; an unusual debility is felt in exercise; the breathing is hurried by moderate exercise; where farther the back becomes pained from any continuance in an erect posture, when the extremities become frequently cold, and when at night the
feet

feet appear affected with oedematous swelling; we may, from these symptoms, certainly conclude, that the flow of the menses has been immoderate, and has already induced a dangerous state of debility.

DCCCCXLV.

The debility thus induced, often discovers itself also by affections of the stomach, an anorexia, and other symptoms of dyspepsia; by a palpitation of the heart, and frequent faintings; by a weakness of mind liable to strong emotions from slight causes, especially those presented by surprise.

DCCCCXLVI.

That flow of the menses, which is attended with barrenness(DCCCCXXXVIII.) in married women, may be generally considered as immoderate and morbid.

DCCCCXLVII.

DCCCCXLVII.

Generally, also, that flow of the menses may be considered as immoderate, which is preceded and followed by a leucorrhoea.

DCCCCXLVIII.

We treat of menorrhagia here, as an active hemorrhagy, because we consider menstruation, in its natural state, to be always of that kind; and though there should be cases of menorrhagia which might be considered as purely passive, I am of opinion they cannot be so properly treated of in any other place.

DCCCCXLIX.

The menorrhagia (DCCCCXL. et seq.) has for its proximate cause, either the hemorrhagic effort of the uterine vessels preternaturally increased, or a preternatural laxity of the extremities of the uterine arteries,

ries, the hemorrhagic effort remaining as in the natural state.

DCCCCL.

The remote causes of the menorrhagia may be, 1st, Those which increase the plethoric state of the uterine vessels; as a full and nourishing diet, much strong liquor, and frequent intoxication. 2dly, Those which determine the blood more copiously and forcibly into the uterine vessels; as violent strainings of the whole body; violent shocks of the whole body from falls; violent strokes or contusions on the lower belly; violent exercise, particularly in dancing; and violent passions of the mind. 3dly, Those which particularly irritate the vessels of the uterus; as excess in venery; the exercise of venery in the time of menstruation; a costive habit, giving occasion to violent straining at stool; and cold applied to the feet. 4thly, Those which

which have forcibly overstrained the extremities of the uterine vessels ; as frequent abortions ; frequent child-bearing without nursing ; and difficult tedious labours. Or, lastly, Those which induce a general laxity ; as living much in warm chambers, and drinking much of warm enervating liquors, such as tea and coffee.

DCCCCLI.

The effects of the menorrhagia are pointed out in (DCCCCXLIH.--DCCCCXLVI.) where we have mentioned the several symptoms accompanying the disease, and from these the consequences to be apprehended will also readily appear.

DCCCCLII.

DCCCCLII.

The treatment and cure of the menorrhagia must be different, according to the different causes of the disease.

In all cases, the first attention ought to be given to avoiding the remote causes, whenever that can be done, and by such attention the disease may be often entirely removed.

When the remote causes cannot be avoided, or when the avoiding them has been neglected, and a copious menstruation has come on, it should be moderated as much as possible, by abstaining from all exercise at the coming on, or during the continuance of the menstruation; by avoiding even an erect posture as much as possible; by shunning external heat, and therefore warm chambers and soft beds; by using a light and cool diet; by taking cold drink, at least as far as former habits will allow; by avoiding venery; by obviating costiveness, or removing it by laxatives which give little stimulus.

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The sex are commonly negligent, either in avoiding the remote causes, or in moderating the first beginnings of this disease. It is by such neglect that it so frequently becomes violent, and of difficult cure ; and the frequent repetition of a copious menstruation may be considered as a cause of great laxity in the extreme vessels of the uterus.

DCCCCLIII.

When the coming on of the menstruation has been preceded by some disorder in other parts of the body, and is accompanied with pains of the back, somewhat like parturient pains, with febrile symptoms, and when, at the same time, the flow seems to be copious, a bleeding at the arm may be proper ; but it is not often necessary ; and it will in most cases be sufficient to employ, with great attention and diligence, those means for moderating the discharge which we have mentioned in the last paragraph.

DCCCCLIV.

DCCCCLIV.

When the immoderate flow of the menses shall seem to be owing to a laxity of the vessels of the uterus, as may be concluded from the general debility and laxity of the person's habit ; from the remote causes that have occasioned the disease ; from the absence of the symptoms which denote increased action in the vessels of the uterus ; from the frequent recurrence of the disease ; and particularly from this, that the person in the intervals of menstruation is liable to a leucorrhoea, in such a case the disease is to be treated, not only by employing all the means mentioned in (DCCCCLIV.) for moderating the hemorrhagy, but also by avoiding all irritation, every irritation having the greater effect, in proportion as the vessels are more lax and yielding. If, in such a case of laxity, it shall appear that some degree of irritation concurs, opiates

may be employed to moderate the discharge ; but in using these much caution is requisite.

If, notwithstanding these measures having been taken, the discharge shall prove very large, astringents, both external and internal, may be employed. In such cases, may small doses of emetics be of service ?

DCCCCLV.

When the menorrhagia depends on the laxity of the uterine vessels, it will be proper, in the intervals of menstruation, to employ Tonic remedies ; as cold bathing, and chalybeates. The exercises of gestation, also, may be very useful, both for strengthening the whole system, and for taking off the determination of the blood to the internal parts.

DCCCCLVI.

DCCCCLVI.

The remedies mentioned in these two last paragraphs, may be employed in all cases of menorrhagia, from whatever cause it may have proceeded, if it shall have already induced a considerable degree of debility in the body.

CHAP.

C H A P. VII.

OF THE LEUCORRHOEA,

FLOUR ALBUS, OR WHITES.

DCCCCLVII.

Every serous or puriform discharge from the vagina may be, and has been comprehended under the appellations we have given to this chapter. Such discharges, however, may be various, and may proceed from various sources not yet well ascertained; but we confine ourselves here to that alone which we judge proper for this place, and that is, to treat of such discharge only, as we presume to proceed from the same vessels

vessels which, in their natural state, pour out the menses.

DCCCCLVIII.

We conclude a discharge from the vagina to be of this kind, 1. From its happening to women who are liable to an immoderate flow of the menses, and who are liable to this from causes weakening the vessels of the uterus. 2. From its appearing chiefly, and often only a little before, and immediately after, the flow of the menses. 3. From the flow of the menses being diminished in proportion as the leucorrhoea is increased. 4. From the leucorrhoea continuing after the menses have entirely ceased, and with some appearance of the leucorrhoea's observing a periodical movement. 5. From the leucorrhoea's being accompanied with the effects of the menorrhagia (DCCCXLV.) 6. From the discharge's
neither

neither having been preceded nor accompanied with symptoms of any topical affections of the uterus. 7. From the leucorrhoea not having appeared soon after communication with a person who might be suspected of communicating infection, and from the first appearance of the disease not being accompanied with any inflammatory affection of the pudenda.

DCCCCLIX.

The appearance of the matter discharged in the leucorrhoea is very various in respect of consistence and colour; but from these appearances it is not always possible to determine concerning its nature, or the particular source from which it proceeds.

DCCCCLX.

DCCCCLX.

The leucorrhoea, of which we are to treat, as ascertained by the several circumstances (DCCCCLVIII.) proceeds from the same causes as that menorrhagia which is from the laxity of the extreme vessels of the uterus. Such a menorrhagia, accordingly, it often follows and accompanies ; but, though the leucorrhoea depends chiefly upon the laxity mentioned, it may have proceeded from irritations inducing that laxity, and it seems to be always increased by any irritations applied to the uterus.

DCCCCLXI.

Some authors have alledged that a variety of circumstances in other parts of the body may have a share in bringing on, and continuing the affection of the uterus we treat of; but I cannot discover the reality of those
causes,

caufes, and it feems to me that the leucorrhœa we treat of, excepting fo far as it depends upon a general debility of the fyftem, is always primarily an affection of the uterus; and the affections of other parts of the body which may chance to accompany that, are for the moft part to be confidered as effects, rather than caufes.

DCCCCLXII.

The effects of the leucorrhœa are much the fame with thofe of the menorrhagia; inducing a general debility, and, in particular, a debility in the functions of the ftomach. But, if the leucorrhœa be moderate, and be not accompanied with any confiderable degree of the menorrhagia, it may often continue long without inducing any great degree of debility, and it is only when the difcharge has been very copious as well as conftant, that its effects in that way are very remarkable.

DCCCCLXIII.

DCCCCLXIII.

But, even when its effects on the whole body are not very considerable, it may still be supposed to weaken the genital system ; and it seems sufficiently probable that this discharge has often a share in occasioning barrenness.

DCCCCLXIV.

The matter discharged in the leucorrhoea is, at first, generally mild ; but, after some continuance of the disease, it sometimes becomes acrid, and by irritating, or perhaps eroding the surfaces over which it passes, induces various painful disorders.

DCCCCLXV.

As the leucorrhoea proceeds from the same causes as that menorrhagia, which is

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chiefly from the laxity of the uterine vessels, the former is to be treated and cured very much in the same manner as the latter, and with less reserve in respect of the use of astringents.

DCCCCLXVI.

As the leucorrhoea depends so often on a great loss of tone in the vessels of the uterus, the disease has been relieved, and sometimes cured, by certain stimulant medicines, which are naturally directed to the urinary passages, and from the vicinity of these, are often communicated to the uterus. Such are cantharides, turpentine, and other balsams a-kin to it.

C H A P. VIII.

O F T H E A M E N O R R H O E A,

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I N T E R R U P T I O N O F T H E M E N S T R U A L F L U X.

DCCCCLXVII.

Whatever may be the fittest place for the amenorrhoea, in a system of methodical nosology, it cannot be improper to treat of it here, as an object of practice, immediately after treating of the menorrhagia.

DCCCCLXVIII.

The interruption of the menstrual flux is to be considered as in two different states ;
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the one is, when the menses do not begin to flow at the period of life at which they may be expected ; and the other state is, when, after they have taken place for some time, they do, from other causes than conception, cease to return at their usual periods. The former of these cases we shall name the *retention*, and the latter the *suppression* of the menses.

DCCCCLXIX.

As the flowing of the menses depends upon the force of the uterine arteries impelling the blood into their extremities, and opening these so as to pour out red blood ; so the interruption of the menstrual flux must depend, either upon the want of due force in the action of the uterine arteries, or upon some preternatural resistance in their extremities. The former we suppose to be the most usual cause of *retention*, the latter the most common cause of the *suppression*

pression of the menses. But of each of these now more particularly.

DCCCCLXX.

The retention of the menses, the *emanſio* of Latin writers, is not to be considered as a disease, merely from the menses not flowing at the period which is usual with many other women. This period is so different in different women, that no time can be precisely assigned as proper to the sex in general. In this climate, the menses usually appear about the age of fourteen; but in many, they appear more early, and in many not till the sixteenth year; and in the latter case, it is often without any disorder being thereby occasioned. It is not therefore from the age of the person that the retention is to be considered as a disease; and, indeed, it is to be considered as such only when, about the time the menses usually flow,

flow, some disorders arise which may be imputed to the retention; being such as we know from experience, when arising at this period, to be removed by the flowing of the menses.

DCCCCLXXI.

These disorders are a sluggishness and frequent sense of lassitude and debility, with various symptoms of dyspepsia, and sometimes with a preternatural appetite. At the same time, the face loses its vivid colour, becomes pale, and sometimes of a yellowish colour; the whole body becomes pale and flaccid, and the feet, and perhaps also a great part of the body, become affected with oedematous swelling. The breathing is hurried by any quick or laborious motion of the body, and the heart is liable to palpitation and syncope. A head-ach sometimes occurs, but more certainly pains of the back, loins, and haunches.

DCCCCLXXII.

DCCCCLXXII.

These symptoms, when in a high degree, constitute the *Chlorosis* of authors, hardly ever appearing separate from the retention of the menses; and, from the consideration of these symptoms, we are led to perceive the cause of this retention.

These symptoms manifestly shew a considerable laxity and flaccidity of the whole system, and lead us therefore to judge, that the retention of the menses accompanying them is owing to a weaker action of the vessels of the uterus; which therefore do not impel the blood into their extremities, with a force sufficient to open these, and pour out blood by them.

DCCCCLXXIII.

How it happens that at a certain period of life a flaccidity of the system arises in
young

young women not originally affected with any such weakness or laxity, and of which, but a little time before, they gave no indication, may be difficult to explain; but we attempt it in this way.

As a certain state of the ovaria in females prepares and disposes them to the exercise of venery about the very period at which the menses first appear, it is presumed that the state of the ovaria and of the uterine vessels are some how connected together; and as generally symptoms of the former appear before those of the latter, it may be presumed that the state of the ovaria has a great share in exciting the action of the uterine vessels, and producing the menstrual flux. But, analogous to what happens in the male sex, it may be presumed that a certain state of the genitals in females, is necessary to give tone and tension to the whole system in them; and, therefore, that, if the stimulus arising from the genitals is wanting, the whole system

system may fall into a torpid and flaccid state, and from thence the chlorosis and retention of the menses may arise.

DCCCCLXXIV.

We are of opinion, therefore, that the retention of the menses is to be referred to a certain state or affection of the ovaria ; but what is precisely the nature of this affection, or what are the causes of it, I will not pretend to explain, nor can I explain in what manner that primary cause of retention is to be removed. In this case, therefore, as in many others, where we cannot assign the proximate cause of diseases, our indications of cure must be formed for obviating and removing the morbid effects or symptoms which appear,

DCCCCLXXV.

The effects, as we have said in (DCCCCLXXIV.) consist in a general flacci-

dity of the system, and therefore in a weaker action of the vessels of the uterus; and these may be considered as the more immediate cause of the retention. This, therefore, is to be cured by restoring the tone of the system in general, and by exciting the action of the uterine vessels in particular.

DCCCCLXXVI.

The tone of the system in general is to be restored by exercise, and, in the beginning of the disease, by cold bathing. At the same time, tonic medicines may be employed, and, of these, the chalybeates have been chiefly recommended.

DCCCCLXXVII.

The action of the vessels of the uterus may be excited,

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1st, By determining the blood into them more copiously, and this by determining the blood into the descending aorta; by purging; by the exercise of walking; by friction; and by warm bathing of the lower extremities; and it is probable that the blood may be determined more copiously into the hypogastric arteries which go to the uterus, by a compression of the iliacs; but trials of this kind hitherto made have seldom succeeded.

DCCCCLXXVIII.

2dly, The action of the uterine vessels may be excited by stimulants applied to them. Thus those purgatives which particularly stimulate the intestinum rectum, may also prove stimulant to the uterine vessels connected with those of the rectum. The exercise of venery certainly proves a stimulus to the vessels of the uterus, and therefore may be useful when, with propriety, it can be
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employed. The various medicines recommended as stimulants of the uterine vessels, under the title of emmenagogues, have never appeared to me to be effectual ; and I cannot perceive that any of them are possessed of a specific power in this respect. Mercury, as an universal stimulant, may act upon the uterus, but cannot be very safely employed in chlorotic persons. One of the most powerful means of exciting the action of the vessels in every part of the system is, the electrical shock, and it has often been employed with success for exciting the vessels of the uterus.

DCCCCLXXIX.

The remedies (DCCCCLXVIII.—DCCCCLXXI.) now mentioned, are those adapted to the retention of the menses; and we are next to consider the case of suppression. In entering upon this, we must observe,
that

that every interruption of the flux, after it has once taken place, is not to be considered as a case of suppression. For the flux, upon its first appearance, is not immediately established in its regular course; and, therefore, if an interruption happen soon after the first appearance, or even in the course of the first, or perhaps second year after, it may often be considered as a case of retention, especially when the disease appears with the symptoms peculiar to retention.

DCCCCLXXX.

Those which may be properly considered as cases of suppression, are such as occur after the flux had been for some time established in its regular course, and in which the interruption cannot be referred to the causes of retention (DCCCCLXVI. DCCCCLXVII.) but must be imputed to some resistance in the extreme vessels of the uterus. Accordingly,

dingly, we often find the suppression induced by cold, fear, and other causes which may produce a constriction of those extreme vessels. Some physicians have supposed an obstructing lentor of the fluids to occasion the resistance mentioned; but this is purely hypothetical, without any proper evidence of the fact, which also, from other considerations, is improbable.

DCCCCLXXXI.

There are, indeed, some cases of suppression which seem to depend upon a debility of the system in general, and consequently of the vessels of the uterus. But, in such cases, the suppression always appears as symptomatic of other affections, and therefore not to be considered here.

DCCCCLXXXII.

DCCCCLXXXII.

The idiopathic cases of suppression (DCCCCLXXX.) are attended with various symptoms, or disorders in different parts of the body; very commonly arising from the blood which should have passed by the uterus, being determined more copiously into other parts, and very often with such force as to produce hemorrhagy. Hence hemorrhagies from the nose, lungs, stomach, and other parts, have appeared in consequence of suppressed menses. Besides these, there are commonly hysteric and dyspeptic symptoms produced by the same cause, and frequently cholic pains, with a bound belly.

DCCCCLXXXIII.

In those cases of suppression, (DCCCCLXXX.) the indication of cure is
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to remove the constriction affecting the extreme vessels of the uterus ; and for answering this purpose, the chief remedy is warm bathing applied to the region of the uterus. This, however, is not always effectual, and I don't know of any other remedy adapted to the indication. Besides this, we have, perhaps, no other means of removing the constriction in fault, but that of increasing the action and force of the vessels of the uterus, so as thereby to overcome the resistance or constriction of their extremities. This leads, therefore, to employ the same remedies in the case of suppression, as those prescribed above for the cases of retention (DCCCCLXXVI.—DCCCCLXIII.) The tonics, however, and cold bathing (DCCCCLXXVI.) seem to be less properly adapted to the cases of suppression, and have appeared to me of ambiguous effect.

DCCCCLXXXIV.

DCCCCLXXXIV.

It commonly happens in the cases of suppression, that, though the menses do not flow at their usual periods, there are often, at those periods, some marks of an effort having a tendency to produce the discharge. It is, therefore, at those times especially when the efforts of the system are concurring, that we ought to employ the remedies for curing a suppression, and it is commonly fruitless to employ them at other times, unless they be such as in their use require some continuance to produce their effects.

DCCCCLXXXV.

Nearly a-kin to the cases of suppression, are those cases in which the menses flow after longer intervals, and in lesser quantity than usual; and when these cases are attend-

ed with the disorders in the system, they are to be cured by the same remedies as the cases of entire suppression.

DCCCCLXXXVI.

It may be proper in this place to take notice of the dysmenorrhoea, or cases of menstruation in which the menses seem to flow with difficulty, and are accompanied with much pain in the back, loins, and lower belly. We impute this disorder partly to some weaker action of the vessels of the uterus, and partly, perhaps more especially, to a spasm of its extreme vessels. We have commonly found the disease relieved by employing some of the remedies of suppression immediately before the approach of the period, and at the same time employing opiates.

B O O K. V.

O F P R O F L U V I A,

O R

F L U X E S W I T H P Y R E X I A.

DCCCCLXXXVII.

Former nosologists have established a class of diseases under the title of Fluxes, or Profluvia; but, as in this class they have brought together a great number of diseases which have nothing in common, but the single circumstance of an increased discharge of fluids, and are in other respects very different from one another, we have avoided so improper

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an arrangement, and have distributed most of the diseases comprehended in such a class by the nosologists, into places more natural for them. We have, indeed, still employed here the general title; but we confine it to such fluxes only as are constantly attended with pyrexia, and which therefore necessarily belong to the class of diseases we are now treating of.

Of the fluxes which may be considered as being very constantly febrile diseases, there are only two, namely, the catarrh and dysentery; and of these therefore we now proceed to treat.

CHAP.

C H A P. I.

O F T H E C A T A R R H.

DCCCCLXXXVIII.

The catarrh is an increased excretion of mucus from the mucous membrane of the nose, fauces, and bronchiae, attended with pyrexia.

Practical writers and nosologists have distinguished the disease by different appellations, according as it happens to affect those different parts of the mucous membrane; the one part more or less than the other: But we are of opinion that the disease in those different parts is always of the same nature, and proceeds from the same cause in the one as in the other. Very commonly indeed those different parts are affected at the same time; and
therefore

therefore there is little room for the distinction mentioned.

The disease has been frequently treated of under the title of tussis, or cough ; and a cough, indeed, always attends the chief form of catarrh, that is, the increased excretion from the bronchiae ; but it is so often also a symptom of many other affections, which are very different from one another, that it is improperly used as a generic title.

DCCCCLXXXIX.

The disease we are to treat of generally begins with some difficulty of breathing through the nose, and with a sense of some fullness stopping up that passage. This again is often attended with some dull pain and a sense of weight in the forehead, as well as some stiffness in the motion of the eyes. These feelings, sometimes at their very first beginning, and always soon after, are attended

tended with the distillation of a thin fluid from the nose, and sometimes from the eyes, and these fluids are often found to be somewhat acrid, both by their taste, and by their fretting the parts over which they pass.

DCCCCXC.

These symptoms constitute the coryza and gravedo of authors, and are commonly attended with a sense of lassitude over the whole body. Sometimes cold shiverings are felt; at least the body is more sensible than usual to the coldness of the air; and with all this the pulse is more frequent than ordinary, especially in the evenings.

DCCCCXCI.

These symptoms have seldom continued long before they are accompanied with some hoarseness, and a sense of roughness and foreness

foreness in the trachea, with some difficulty of breathing, expressed by a sense of straitness in the chest, and with a cough which seems to arise from some irritation felt at the glottis. This cough is generally at first dry and painful, occasioning pains about the chest, and more especially in the breast; sometimes, together with these symptoms, pains resembling those of the rheumatism are felt in several parts of the body, particularly about the neck and head. With all these symptoms, the appetite is impaired, some thirst arises, and a feverish lassitude is felt all over the body.

DCCCCXCII.

These symptoms (DCCCCXCI.) mark the violence and height of the disease; but commonly it does not continue long. By degrees the cough becomes attended with a more copious excretion of mucus, which is at first thin, but gradually becoming thicker,

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er, is brought up with less frequent and less laborious coughing. The hoarseness and soreness of the trachea are also relieved or removed, and the febrile symptoms abating, the expectoration becomes again less, and the cough less frequent, till at length they cease altogether.

DCCCCXCIII.

Such is generally the course of this disease, neither tedious nor dangerous; but it is sometimes in both respects otherwise. The body affected with catarrh seems to be more than usually liable to be affected by cold air; and if the body affected with catarrh be exposed to cold, the disease, which seemed to be yielding, is often brought back with greater violence than before, and is rendered not only more tedious than otherwise it would be, but also more dangerous, by the supervening of other diseases.

DCCCCXCIV.

Some degree of the cynanche tonsillaris often accompanies the catarrh; and, when this is aggravated by a fresh application of cold, the cynanche also becomes more violent and dangerous, from the cough, which is present at the same time.

DCCCCXCV.

When a catarrh has been occasioned by a violent cause, when it has been aggravated by improper management, and especially when it has been rendered more violent by fresh and repeated applications of cold, it often passes into a pneumonic inflammation attended with the utmost danger.

DCCCCXCVI.

DCCCCXCVI.

Unless, however, such accidents as those of (DCCCCXCIII.—DCCCCXCVI.) happen, a catarrh, in sound persons not far advanced in life, is, I think, always a slight and safe disease. But in persons of a phthifical disposition, a catarrh may readily produce a hemoptysis, or perhaps form tubercles in the lungs; and more certainly in persons who have tubercles already formed in the lungs, an accidental catarrh may occasion the inflammation of these tubercles, and, in consequence, produce a phthisis pulmonalis.

DCCCCXCVII.

In elderly persons, a catarrh sometimes proves a dangerous disease. Many persons, as they advance in life, and especially after they have arrived at old age, have the natural mucus of the lungs poured out in
greater

greater quantity, and requiring a frequent expectoration. If, therefore, a catarrh happen to such persons, and increase the afflux of fluids to the lungs, with some degree of inflammation, it may produce the peripneumonia notha, which in such cases is very often fatal. See (CCCLIII.)

DCCCCXCVIII.

The proximate cause of catarrh seems to be an increased afflux of fluids to the mucous membrane of the nose, fauces, and bronchiae, along with some degree of inflammation affecting the same. The latter circumstance is confirmed by this, that, in the case of catarrh, the blood drawn from a vein commonly exhibits the same inflammatory crust which appears in the case of phlegmasiae.

DCCCCXCIX.

DCCCCXCIX.

The remote cause of catarrh is, most commonly, cold applied to the body. This application of cold producing catarrh, is generally evident and observed ; and, I believe, it would always be so, were men acquainted with, and attentive to, the circumstances which determine cold to act upon the body. See (XCI.).

From the same paragraph we may learn what in some persons gives a predisposition to catarrh.

M.

The application of cold which occasions a catarrh, probably operates by stopping the perspiration usually made by the skin, and which is therefore determined to the mucous membrane of the parts above mentioned. As a part of the weight which the
body

body daily loses by insensible evacuation, is owing to an exhalation from the lungs, there is probably a connection between this exhalation and the cutaneous perspiration ; so that the one may be increased according as the other is diminished ; and, therefore, we may understand how the diminution of cutaneous perspiration by the application of cold, may increase the afflux of fluids to the lungs, and therefore produce a catarrh.

MI.

There are some observations of Dr James Keil which may render this matter doubtful ; but there is a fallacy in those observations. The evident effects of cold in producing coryza leave the matter, in general, without doubt ; and there are several other observations which shew a connection between the lungs and the surface of the body.

MII.

MII.

Whether, from the suppression of perspiration, a catarrh be produced merely by an increased afflux of fluids, or whether further the matter of perspiration be at the same time determined to the mucous glands, and there excites a particular irritation, may be uncertain; but the latter supposition is sufficiently probable.

MIII.

Although, in the case of a common catarrh, which is in many instances sporadic, it may be doubtful whether any morbid matter be applied to the mucous glands; we are, however, certain, that the symptoms of a catarrh do frequently depend upon such a matter being applied to these glands, as appears from the case of measles, chincough, and especially from the frequent occurrence

occurrence of contagious and epidemical catarrh.

MIV.

The mention of this last leads me to observe, that there are two species of catarrh, as we have marked in our Synopsis of Nosology. One of these, as we suppose, is produced by cold alone, as has been explained above; and the other seems manifestly to be produced by a specific contagion.

Of such contagious catarrhs, we have pointed out in the Synopsis many instances, occurring from the XIVth century, down to the present day. Of all these, the phenomena have been much the same; and the disease has always been particularly remarkable for this, that it has been the most widely and generally spreading epidemic known. It has seldom appeared in any one country of Europe, without appearing successively in every different part of it; and,
in

in some instances, it has been also transferred to America, and has been spread there in like manner, so far as we have had opportunities of being informed.

MV.

The catarrh from contagion appears with nearly the same symptoms as those mentioned (DCCCCLXXXI.—DCCCCLXXXIII.) It seems often to come on in consequence of the application of cold. It comes on with more cold shivering than the catarrh arising from cold alone; and the former does also not only sooner shew febrile symptoms, but to a more considerable degree. Accordingly, it more speedily runs its course, which is commonly finished in a few days. It sometimes ends by a spontaneous sweat; and this, in some persons, produces a miliary eruption. It is, however, the febrile state of this disease especially, that is finished in a few days;

for the cough, and other catarrhal symptoms, do frequently continue longer ; and often when they appear to be going off, they are renewed by any fresh application of cold.

MVI.

Considering the number of persons who are affected with catarrh, of either the one species or the other, and escape from it quickly without any hurt, it may be allowed to be a disease very free from danger ; but it is not always to be treated as such, for in some persons it is accompanied with pneumonic inflammation. In the phthical disposed, it often accelerates the coming on of phthisis ; and in elderly persons it often proves fatal in the manner (DCCCCXCVII.) we have explained above.

MVII.

MVII.

The cure of catarrh is nearly the same, whether it proceeds from cold or contagion; only in the latter case remedies are commonly more necessary than in the former.

In the cases of a moderate disease, it is commonly enough to avoid cold or to abstain from animal food for some days, or perhaps for the same time to lie a-bed, and by taking frequently some mild and diluent drink, a little warmed, to promote a very gentle sweat, and after this to take care to return very gradually only to the use of the free air.

MVIII.

When the disease is more violent, not only the antiphlogistic regimen, exactly observed, but various remedies also, become necessary.

To take off the phlogistic diathesis, which always attends this disease, blood-letting,
more

more or less, according as the symptoms shall require, is the proper remedy.

After blood-letting ; for restoring the determination of the fluids to the surface of the body, and, at the same time, for expediting the secretion of mucus in the lungs, which may take off the inflammation of its membrane, vomiting is the most effectual means.

For the last mentioned purpose, it has been supposed that squills, gum ammoniac, the volatile alkali, and some other medicines, might be useful ; but their efficacy has never appeared to me to be considerable ; and, if squills have ever been very useful, it seems to have been rather by their emetic, than by their expectorant powers.

When the inflammatory affections of the lungs seem to be considerable, it is proper, besides blood-letting, to apply blisters to the back or sides.

As a cough is often the most troublesome circumstance of this disease, so demulcents
may

may be employed to alleviate it. See (CCCLXX.)

But, after the inflammatory symptoms are much abated, if the cough still remain, opiates afford the most effectual means of relieving it; and, in the circumstances just now mentioned, they may be very safely employed. See (CCCLXXII.)

After the inflammatory and febrile states of this disease are very much gone, the most effectual means of discussing all remains of the catarrhal affection, is by some exercise of gestation diligently employed.

CHAP.

C H A P. II.

O F T H E D Y S E N T E R Y.

MIX.

The dysentery is a disease in which the patient has frequent stools, accompanied with much griping, and followed by a tenesmus. The stools, though frequent, are generally in small quantity, and the matter voided is chiefly mucus, sometimes mixed with blood. At the same time, the natural faeces seldom appear, and, when they do, it is generally in a compact and hardened form.

MX.

This disease occurs especially in summer and autumn, at the same time with autumnal,

nal, intermittent, and remittent fevers; and with these it is only complicated.

MXI.

The disease comes on sometimes with cold shiverings, and other symptoms of pyrexia; but more commonly the symptoms of the topical affection appear first. The belly is costive, with an unusual flatulence in the bowels. Sometimes, though more rarely, some degree of diarrhoea is the first appearance. In most cases, the disease begins with griping, and a frequent inclination to go to stool. In indulging this, little is voided, but some tenesmus attends it. By degrees the stools become more frequent, the griping more severe, and the tenesmus more considerable. With these symptoms there is a loss of appetite, and frequently sickness, nausea, and vomiting, also affecting the patient. At the same time there is always more or less of pyrexia present. It is sometimes

times of the remittent kind, and observes a tertian period. Sometimes the pyrexia is manifestly inflammatory, and very often of a putrid kind. These febrile states continue to accompany the disease during its whole course, especially when it terminates soon in a fatal manner. In other cases, the febrile state almost entirely disappears, while the proper dysenteric symptoms remain for a long time after.

MXII.

In the course of the disease, whether for a shorter or a longer time, the matter voided by stool is very various. Sometimes it is merely a mucous matter, without any blood, exhibiting that disease which Dr Roederer has named the *morbus mucosus*, and others the *dysenteria alba*. For the most part, however, the mucus discharged is more or less mixed with blood. This sometimes appears only in streaks

streaks amongst the mucus, but at other times is more copious, tinging the whole; and upon some occasions a pure and unmixed blood is voided in considerable quantity. In other respects, the matter voided is variously changed in colour and consistence, and is commonly of a strong and unusually foetid odour. It is probable, that sometimes a genuine pus is voided, and frequently a putrid sanies, proceeding from gangrenous parts. There are very often mixed with the liquid matter, some films of a membranous appearance, and frequently some small masses of a seemingly sebaceous matter.

MXIII.

While the stools voiding these various matters are, in many instances, exceedingly frequent, it is seldom that natural faeces appear in them; and when they do appear, it is, as we have said, in the form of scy-

bala, that is, in somewhat hardened, separate balls. When these are voided, whether by the efforts of nature, or as solicited by art, they procure a remission of all the symptoms, and more especially of the frequent stools, griping, and tenesmus.

MXIV.

Accompanied with these circumstances, the disease proceeds for a longer or a shorter time. When the pyrexia attending it is of a violent inflammatory kind, and more especially when it is of a very putrid nature, the disease often terminates fatally in a very few days, with all the marks of a supervening gangrene. When the febrile state is more moderate, or disappears altogether, the disease is often protracted for weeks, and even for months; but, even then, after a various duration, it often terminates fatally, and generally in consequence of a return and considerable aggravation of the
inflammatory

Inflammatory and putrid states. In some cases, the disease ceases spontaneously, the frequency of stools, the griping, and tenesmus gradually diminishing, while natural stools return. In other cases, the disease, with moderate symptoms, continues long, and ends in a diarrhoea, sometimes accompanied with lenteric symptoms.

MXV.

The remote causes of this disease have been variously judged of. It generally arises in summer or autumn, after considerable heats have prevailed for some time, and especially after very warm, and at the same time very dry states of the weather; and the disease is much more frequent in warm, than in cooler climates. It happens, therefore, in the same circumstances and seasons, which considerably affect the state of the bile in the human body; but the cholera is often without any dysenteric symptoms,
and

and copious discharges of bile have been found to relieve the symptoms of dysentery; so that it is difficult to determine what connection the disease has with the state of the bile.

MXVI.

It has been observed, that the effluvia from very putrid animal substances readily affect the alimentary canal, and, upon occasion, they certainly produce a diarrhoea; but, whether they ever produce a genuine dysentery, I have not learned with certainty.

MXVII.

The dysentery does often manifestly arise from the application of cold, but the disease is always contagious; and, by the propagation of such contagion, independent of cold, or other exciting causes, it becomes epidemic in camps, and other places. It is, therefore,

therefore, to be doubted, if the application of cold ever produces the disease, unless where the specific contagion has been previously received into the body: And, upon the whole, it is probable that a specific contagion is to be considered as always the remote cause of this disease.

MXVIII.

Whether this contagion, like many others, be of a permanent nature, and only shews its effects in certain circumstances which render it active, or if it be occasionally produced, we cannot determine. Neither, if the latter supposition be received, can we say by what means it may be generated. As little do we know any thing of its nature, considered in itself; or, at most, only this, that, in common with many other contagions, it is very often somewhat of a putrid nature, and capable of inducing a putrescent tendency in the human body. This, however,

however, does not at all explain its peculiar power in inducing those symptoms which properly and essentially constitute the disease of dysentery (M.)

MXIX.

Of these symptoms, the proximate cause is still obscure. The common opinion has been, that the disease depends upon an acrid matter thrown upon, or somehow generated in the intestines, exciting their peristaltic motion, and thereby producing the frequent stools which occur in this disease. But this supposition cannot be admitted; for, in all the instances known, of acrid substances applied to the intestines, and producing frequent stools, they at the same time produce copious stools, as might be expected from acrid substances applied to any length of the intestines. This, however, is not the case in dysentery, in which the stools, however frequent, are generally in
very

very small quantity, and such as may be supposed to proceed from the lower parts of the rectum only. With respect to the superior portions of the intestines, and particularly those of the colon, it is probable they are under a preternatural and considerable degree of constriction: For, as we have said above, the natural faeces are seldom voided; and when they are, it is in a form which gives reason to suppose they have been long retained in the cells of the colon, and consequently that the colon had been affected with a preternatural constriction. This is confirmed by almost all the dissections which have been made of the bodies of dysenteric patients, in which, when gangrene had not entirely destroyed the texture and form of the parts, considerable portions of the great guts have been found affected with a very considerable constriction.

DXX.

We judge, therefore, that the proximate cause of dysentery, or at least the chief part of the proximate cause, consists in a preternatural constriction of the colon, occasioning, at the same time, those spasmodic efforts which are felt in severe gripings, and which efforts propagated downwards to the rectum, occasion there the frequent mucous stools and tenesmus. But, whether this explanation shall be admitted or not, it will still remain certain, that hardened faeces retained in the colon are the cause of the griping, frequent stools, and tenesmus; for the evacuation of these faeces, whether by nature or by art, gives relief from the symptoms mentioned; and it will be more fully and usefully confirmed by this, that the most immediate and successful cure of dysentery is obtained by an early and constant attention to the preventing the constriction,
and

striction, and the frequent stagnation of faeces in the colon.

MXXI.

We have thus endeavoured to ascertain the proximate cause of dysentery, and therefore to point out also the principal part of the cure, which, from want of the proper view of the nature of the disease, seems to have been, in several respects, fluctuating and undetermined among practitioners.

MXXII.

The most eminent of our late practitioners, and of greatest experience in this disease, seem to be of opinion, that the disease is to be cured most effectually by purging, assiduously employed. The means may be various; but the most gentle laxatives are usually sufficient; and, as the medicine must

be frequently repeated, these are the most safe ; the more especially as an inflammatory state so frequently accompanies the disease. Whatever laxatives produce an evacuation of natural faeces, and a consequent remission of the symptoms, will be sufficient to effectuate the cure. But, if the gentle laxatives shall not produce the evacuation now mentioned, somewhat more powerful must be employed ; and we have found nothing more proper or convenient than tartar emetic, given in small doses, and at such intervals as may determine their operation to be chiefly by stool. Rhubarb so frequently employed, is, in several respects, amongst the most unfit purgatives.

MXXIII.

Vomiting has been held a principal remedy in this disease, and may be usefully employed in the beginning of the disease,
with

with a view to both the state of the stomach, and of the fever ; but it is not necessary to repeat it often ; and, unless the emetics employed operate also by stool, they are of little service. Ipecacuanha is by no means a specific ; and it proves only useful, when so managed as to operate chiefly by stool.

MXXIV.

For relieving the constriction of the colon, and evacuating the retained *faeces*, glysters may sometimes be useful, but they are seldom so effectual as laxatives, given by the mouth ; and acrid glysters, if they be not effectual in evacuating the colon, may prove hurtful by stimulating the rectum too much.

MXXV.

The frequent and severe griping attending this disease, leads almost necessarily to
the

the use of opiates, and they are very effectual for the purpose of relieving from the gripes ; but, by occasioning an interruption of the action of the small guts, they favour the constriction of the colon, and thereby aggravate the disease ; and if, at the same time, the use of them supersede in any measure the employing purgatives, it commonly does much mischief ; and we believe it to be only the neglect of purging that renders the use of opiates very necessary.

MXXVI.

When the gripes are both frequent and severe, they may sometimes be relieved by the employment of a semicupium, or by a fomentation of the abdomen, continued for some time. In the same case, the pains may be relieved, and, as I think, the constriction of the colon may be taken off, by blisters applied to the lower belly.

MXXVII.

MXXVII.

At the beginning of this disease, when the fever is any way considerable, blood-letting, in patients of tolerable vigour, may be proper and necessary ; and, when the pulse is full and hard, with other symptoms of an inflammatory disposition, blood-letting ought to be repeated. But, as the fever attending dysentery is often of a putrid kind, or does, in the course of the disease, become soon of that nature, blood-letting must be cautiously employed.

MXXVIII.

From our account of the nature of this disease, it will be sufficiently obvious, that the use of astringents in the beginning of it must be absolutely pernicious.

MXXIX.

MXXIX.

Whether an acrid matter be the original cause of this disease, may be uncertain; but, from the indigestion and the stagnation of fluids in the stomach which attend the disease, we may suppose that some acrid matters are constantly present in the stomach and intestines, and therefore that demulcents may be always usefully employed. At the same time, from this consideration that mild oily matters thrown into the intestines in considerable quantity always prove laxative, we are of opinion that the oleaginous demulcents are the most useful.

MXXX.

As this disease is so often of an inflammatory, or of a putrid nature, it is evident, that the diet employed in it should be vegetable and acescent. Milk, in its entire state,
is

is of doubtful quality in many cases ; but some portion of the cream is often allowable, and whey is always proper.

In the first stages of the disease, the sweet and subacid fruits are allowable, and even proper. It is in the more advanced stages only that any morbid acidity seems to prevail in the stomach, and to require some reserve in the use of acescents. At the beginning of the disease, absorbents seem to be superfluous ; and, by their astringent and septic powers, they may be hurtful.

MXXXI.

When this disease is complicated with an intermittent fever, and is protracted from that circumstance chiefly, it is to be treated as an intermittent, by administering the Peruvian bark, which, in the earlier periods of the disease, is hardly to be admitted.

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